THE IMPACT OF COVID-19 ON PATIENT ACCESS TO CANCER CARE IN EUROPE

EVERY DAY COUNTS

ADDENDUM

VINTURA

MAY 2021

A message of thanks to all healthcare professionals

It is important to recognise that the negative impact of COVID-19 on cancer patients and their access to care as described in this report could have been much worse. The fact we were able to mitigate this impact is due to the hard work and sacrifices of healthcare professionals across Europe. We would like to express our gratitude to all the people who worked so tirelessly to ensure access to healthcare to all patients, including cancer patients, during the pandemic.

Colophon

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Lymphoma Coalition

evita – Associação de apoio a portadores de alterações nos genes relacionados com cancro hereditário

European Cancer Patient Coalition

Uehp – European Union of Private Hospitals

EANM – European Association of Nuclear Medicine

ALAN – Acute Leukaemia Advocates Network

Associação Melanoma Portugal

Instytut Matki i Dziecka

Digestive Cancers Europe

IBTA – International Brain Tumour Alliance

Youth Cancer Europe

BSMO

EESTAHC – Central and Eastern European Society of Technology Assessment in Health Care

About this report

This report is a follow-up to the report "Every Day Counts - Improving Time to Patient Access to Innovative Oncology Therapies in Europe". Following a multi-stakeholder collaboration during 2019 and early 2020, the report established a collective understanding of causes of delays in patient access to new cancer treatments across Europe. It also suggested solution areas with the potential to reduce time to patient access. It was produced by the European Federation of Pharmaceutical Industries and Associations (EFPIA).

Just as the report was being readied for publication, the World Health Organisation began to consider Europe as the active centre of the COVID-19 pandemic. By mid-March 2020, more than 250 million people in Europe were in lockdown.

Every Day Counts was published when European countries had passed the first peak of the pandemic and restriction measures were being eased. But in the meantime, all stakeholders had experienced the impact of COVID-19 on access to cancer care during the first wave of the pandemic. With the second wave underway, many of the participating organisations involved in the development of the initial report proposed this addendum "Every Day Counts - The impact of COVID-19 on patient access to oncology care in Europe".

Though the COVID-19 pandemic has been an extremely challenging time for healthcare systems and patient access to oncology care, it has forced healthcare practitioners to examine how they can best deliver care in a changed environment, and many of the learnings will be useful even after the pandemic has passed.

The aim of this publication is to offer a comprehensive overview of the detrimental impact of COVID-19 on cancer patients and their access to care, and to generate key learnings which can make cancer care delivery more resilient to disruptions and more sustainable in the post-pandemic world.

This publication is the result of a review of grey and academic literature. Findings were complemented, reviewed, and validated by the European Multi-Stakeholder Sounding Board group, comprising representatives from health technology assessment (HTA) bodies, healthcare professional associations, patient organisations, policy makers, payers and biopharmaceutical companies.

The project was initiated and financed by the EFPIA Oncology Platform (EOP). The EOP is a collaboration between 18 companies from the research-based pharmaceutical industry in Europe. It was launched in 2016 and aims to combine forces to improve cancer patient outcomes across the region.

"The fact a disease can be managed collaboratively, rationally, and systematically is something we have never experienced."

- Member of the EOP European Multi-Stakeholder Sounding Board

Executive summary

"The COVID-19 pandemic has severely impacted cancer care by disrupting prevention and treatment, delaying diagnosis and vaccination, and affecting access to medicines. The number of cancer diagnoses has decreased since the onset of the pandemic, suggesting a future increase in cases."

- Europe's Beating Cancer Plan (European Commission, 2021)

COVID-19 has had a significant impact on patient access to cancer care. A surge of COVID patients has overloaded healthcare systems worldwide, disrupting routine treatment of cancer patients (Saini et al., 2020). Disruptions have also occurred in several patient access milestones including Research & Development (R&D), Marketing Authorisation, Market Access and Patient Access to innovative cancer therapies (see Figure 1). These disruptions are discussed in this report.

For cancer patients this has meant additional hurdles to accessing cancer care, on top of factors that were already delaying patient access in oncology prior to the pandemic (Vintura, 2020).

The seriousness of this threat was made clear in November 2020, when researchers quantified the effect of COVID-19-related delays in cancer treatment on the risk of death. They found that a treatment delay of four weeks is associated

with an increase in the risk of death of between 6 and 13%, depending on the type of cancer. Delays of up to twelve weeks, unsurprisingly, further increase the risk (Hanna et al., 2020).

It is likely there will be further disruptions to health service delivery, whether in the form of future short-term shocks due to new COVID mutations or pandemics, or less obvious sustainability issues such as the alarming (and increasing) shortage of health personnel available to care for Europe's ageing population. The true challenge is to look beyond the current crisis and use learning opportunities from the COVID-19 pandemic to make healthcare systems fit for the future.

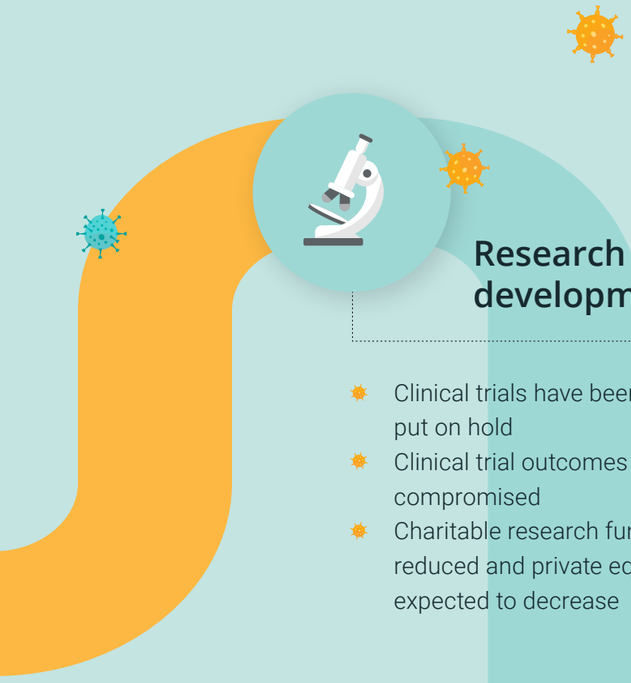
In breast cancer, an eight-week delay in surgery increases the risk of death by 17%, while a 12-week delay increases the risk by 26%.

(Hanna et al., 2020)

Figure 1
The journey of any new treatment goes through four main stages: R&D, Marketing Authorisation, Market Access and Patient Access. All these stages have been impacted by COVID-19.

This multi-stakeholder report captures learnings from researchers, government agencies, pharmaceutical companies, professional societies, and patient organisations regarding the impact of COVID-19 on the accessibility of cancer care in Europe. It focuses on the negative impact of the pandemic for the key patient access milestones that formed the basis of the report "Every Day Counts - Improving Time to Patient Access to Innovative Oncology Therapies in Europe" (see Figure 2).

Figure 2
As described in this report, COVID-19 has had a detrimental impact on every access milestone.

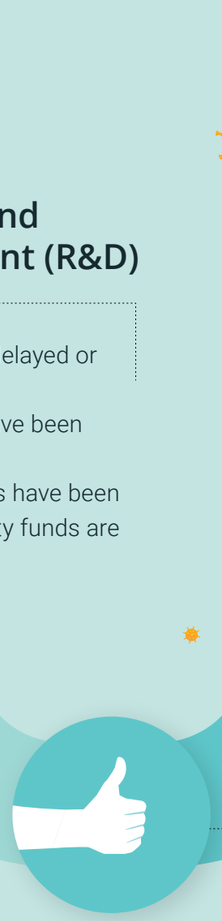


Research and development (R&D)

- Clinical trials have been delayed or put on hold
- Clinical trial outcomes have been compromised
- Charitable research funds have been reduced and private equity funds are expected to decrease

- The scientific evaluation and marketing authorisation process has slowed

Marketing Authorisation



Market Access

- The health technology assessment (HTA) process has slowed
- Assessment and reimbursement of non-COVID therapies have been deprioritised
- Downward pressure on budgets for innovative therapies is expected to increase

Patient Access

Screening & Diagnosis

- Screening programmes for early detection of cancer have been suspended
- Patients experiencing symptoms have visited primary care services less often
- Doctors have referred fewer patients for further examination
- Hospital diagnostic capacity has been reduced

Treatment & Follow-up

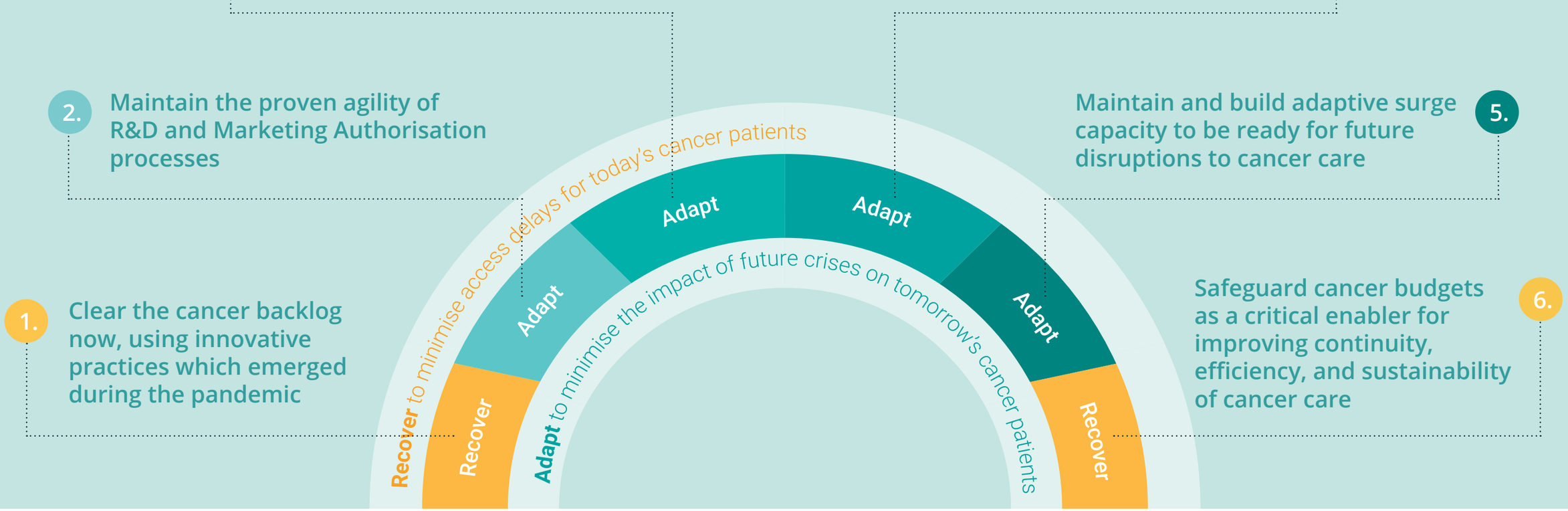
- Patients are less likely to visit the hospital for their cancer care
- Doctors have had to make new trade-offs between the risks and benefits of cancer treatment
- Availability of healthcare personnel has been limited
- Resources for blood transfusion and surgical care have been in short supply

Every day counts - The impact of COVID19 on patient access to cancer care in Europe

As well as outlining the negative impacts of COVID-19 on European cancer care, this report also captures positive developments which should be maintained rather than going back to the old normal. These have been translated into recommendations as to how European healthcare systems can better recover and adapt to minimise both access delays for today's cancer patients, and the impact of future crises on tomorrow's cancer patients (see Figure 3).

Some of these recommendations are not new. Many of the changes required to make European health systems more sustainable have been known for years. Making them happen, however, is both a difficult and lengthy process (Braithwaite, 2018). COVID-19 has provided the necessary momentum to rethink best practices and implement learnings generated during the pandemic. Now is the time to prioritise these recommendations, in order to make lasting changes which can strengthen patient access to cancer care throughout Europe.

Figure 3
Stakeholders identified six key recommendations for European health systems to recover from COVID-19 disruption, while becoming better able to deal with future shocks.



1. Clear the cancer backlog now, using innovative practices which emerged during the pandemic

Clear the cancer ***screening*** backlog using the following practices, which emerged during the pandemic:

- Infrastructure for COVID-19 testing and vaccination (e.g. drive-in centres)
- Public-private partnerships to offer additional cancer screening sites
- The use of e.g. "teledermatology" as a screening tool

Clear the cancer ***treatment*** backlog using the following practices which emerged during the pandemic:

- Dedicated specialist taskforces to clear backlogs
- Virtual multi-disciplinary team meetings to reduce demands on staff and hospital capacity
- Optimised treatment schedules to avoid hospital visits
- Collaboration within regional care networks

2. Maintain the proven agility of R&D and Marketing Authorisation processes

Maintain innovations in R&D, such as:

- Signing consent forms electronically and remotely
- Reducing the frequency of administering infusions through an adjusted dosing scheme
- Mailing oral cancer drugs to patients' homes
- Piloting devices which allow patients to draw their own blood
- Increasing usage of telemedicine and digital tools to monitor patients and collect data
- Strengthening collaborations between pharmaceutical companies, clinical trial sites and regulators to streamline trial design and approval through rolling regulatory reviews

3. Continue the intensified European collaboration in clinical assessment to use scarce HTA resources more efficiently after the pandemic

Increased European HTA collaboration in clinical assessments would speed up patient access. It would also reduce the duplication of efforts and allow for more efficient use of scarce human and financial resources in a post-COVID era.

- The COVID-19 pandemic and related vaccine development have clearly shown joint clinical assessments are possible

The lessons learned should be considered in the European Proposal for a Regulation on Health Technology Assessment, which is currently being discussed.

4. Continue the adoption of digital health to increase remote care and use healthcare resources more efficiently after the pandemic

Digital health and remote care have an enormous potential for increasing patient satisfaction and allocating hospital resources in a more efficient way.

- Cancer drug prescriptions can be made online
- Some medical treatments, especially oral and subcutaneous treatments, can be delivered to community pharmacies or patients' homes, and can even be administered at home
- Blood testing can be performed at home or closer to home
- Some follow-ups can also be transferred away from the traditional hospital setting

Telehealth is an important facilitator in moving these forms of cancer care from the hospital to home. Patient organisations can play a key role in remote counselling. Implementing new, more efficient ways of delivering remote cancer care will require better research and co-operation, appropriate regulatory and reimbursement frameworks, and recognition and funding of patient organisations.

5. Maintain and build adaptive surge capacity to be ready for future disruptions to cancer care

A structural scaling up of resources to respond to future surges in demand may not be possible or efficient. Flexible and agile practices that emerged during the pandemic can be used to maintain and build adaptive surge capacity:

- EMA dedicated taskforces to ensure rapid evaluations of COVID-19 vaccines and safeguard non-COVID-19 activities
- COVID-free cancer centres
- Temporary field hospitals
- Hospital (cross-border) collaboration
- Pool of reserve healthcare staff
- Changes in the health worker skill mix

6. Safeguard cancer budgets as a critical enabler for improving continuity, efficiency, and sustainability of cancer care

One key learning from the crisis is that investing in strong and resilient health systems is crucial to mitigate the impact of external shocks on the wider economy. Countries should invest in innovation that can lead to more efficient health systems. Several learnings from 2020 and early 2021 could help in this regard, as described in this report. A key prerequisite of using these learnings to improve cancer care is to safeguard and optimise the use of healthcare and cancer care budgets.

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Introduction

COVID-19 has had an unprecedented impact on European health systems. By 10 March 2021, 2.6 million COVID-19 deaths had been reported to WHO (WHO, 2021), making the virus one of the major direct causes of death in 2020/2021, after cardiovascular diseases (17.8 million deaths per year), cancer (9.6 million deaths per year) and respiratory diseases and lower respiratory infections (6.5 million deaths per year) according to the latest data on the global burden of disease (Institute for Health Metrics and Evaluation, 2017).

While average life expectancy in the European region has increased significantly in past decades (Hofmarcher et al., 2019), our ability to prevent disease and avoidable mortality has been put under strain by the pandemic. In 2020 and early 2021, European countries saw excess deaths both as a direct result of COVID-19 (Eurostat, 2021) and the indirect strain COVID-19 has put on health systems (Whiting, 2020; Woolf et al., 2020).

Health systems across Europe are overloaded, unable to cope with the surge of COVID-19 patients (Saini et al., 2020). In most European countries, a lack of health personnel is proving to be the main bottleneck in scaling up hospital bed capacity to respond to surges in demand (OECD, 2020).

A significant negative impact on outcomes for cancer patients

COVID-19 has impacted on cancer patients in two ways. It had a disproportional effect on mortality in cancer patients (European Commission, 2021). Patients with cancer have an increased risk of severe outcomes from coronavirus infection. Cancer and cancer-related treatments commonly cause immunosuppression, which makes cancer patients more susceptible to severe coronavirus disease. Most cancer patients are over 65 years old and have one or more comorbidities.

The COVID-19 pandemic has also resulted in hurdles to accessing cancer care. These obstacles – which will be described in the next chapter – are in addition to existing access delays due to pricing and reimbursement processes, national reimbursement criteria and the variation in readiness of European health systems to integrate new therapies in clinical practice (Ventura, 2020).

Outcomes for cancer patients are likely to be negatively affected if the usual standard of care is delayed. (Whiting, 2020). A treatment delay of four weeks is associated with a 6-13% increase in the risk of death (Hanna et al., 2020). Estimates are that breast and colon cancer deaths will increase by 8% to 17% respectively up to five years after diagnosis (Maringe et al., 2020). For European economies, this means a decrease in the life expectancy and productivity of their citizens (Hofmarcher et al., 2019).

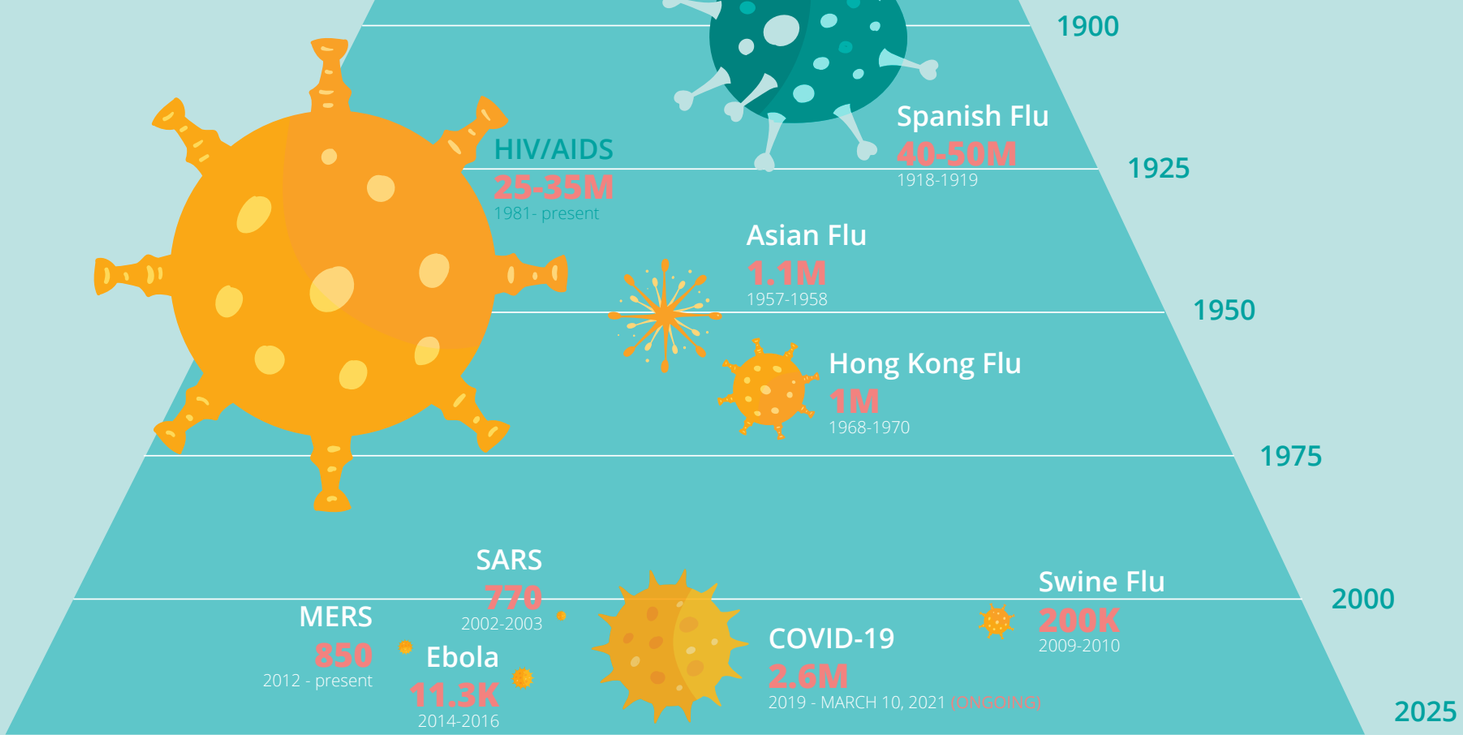


Figure 4
New pandemics will occur, and outbreaks are here to stay (LePan, 2020)

Disruptions are here to stay

New pandemics will occur, and outbreaks are here to stay. Following the first outbreaks of human coronaviruses (SARS-CoV in 2002 and MERS-CoV2 in 2012, see Figure 4), researchers warned that novel coronaviruses were among the pathogens most likely to cause a global health emergency. This is due to the many reservoirs of e.g. SARS-related coronaviruses (SARS-CoV), which will continue to lead to the spill over of viruses from natural hosts to humans and other animals as we continue to reduce the barriers between natural reservoirs and human society (Hu et al., 2018, Cui et al., 2018).

Declining fertility and mortality rates mean the health workforce is shrinking relative to the total population. The shortage of health workers in the EU27 and the United Kingdom is projected to reach 4.1 million by 2030 (World Health Organization, 2016).

The decline in the health worker population will be accompanied by a drop in the population of working age. This will add to existing pressure on healthcare resources through declining social contributions, and challenges the status quo. While European countries face healthcare budget constraints, the number of people diagnosed with cancer across Europe has risen by approximately 50% over the past two decades and is projected to increase to an additional 775,000 diagnoses by 2040 (Hofmarcher et al., 2019). Cancer spending has stayed generally constant as a proportion of total health expenditure over the last two decades, despite increasing incidence. Innovations in treatment including a shift from inpatient to outpatient care have so far kept survival gains rising, but this is a system under pressure (Hofmarcher et al., 2019).

The challenge is, therefore, both to overcome the current crisis and look beyond it to make sure cancer care delivery becomes more resilient against future disruptions and sustainability challenges.

What have we learned?

This multi-stakeholder report captures the learnings from investigators, government agencies, pharmaceutical companies, professional societies, and patient organisations about the impact of COVID-19 on patient access to cancer care in Europe.

It focuses on the key patient access milestones that formed the basis of the report “Every Day Counts - Improving Time to Patient Access to Innovative Oncology Therapies in Europe” (see Figure 1):

- Research & Development: global clinical trials to demonstrate the safety and efficacy of a therapy
- Marketing Authorisation: European authorisation to market an innovative therapy
- Market Access: national pricing and reimbursement for innovative therapies
- Patient Access: local screening, diagnosis, treatment and follow-up of patients

It describes the threats posed by COVID-19, and the positive developments and learnings which have arisen because of efforts to mitigate the detrimental effects of the pandemic on cancer patients.

Even though realising change in healthcare is a difficult and lengthy process, the way in which stakeholders were able to develop, approve, produce, and provide access to vaccines has shown how stakeholders can join forces successfully to solve serious challenges and ensure rapid patient access.

With cancer increasing as a global primary cause of death, we have the opportunity to learn from this experience, capture this common spirit and sense of urgency and unify efforts to speed up patient access to cancer care.

COVID-19 has had a detrimental impact on access to cancer care

Following the start of the pandemic in early 2020, cancer patients across Europe experienced delays in accessing cancer care as health systems became overloaded and restriction measures were implemented.

Delays in cancer diagnosis, treatment and follow-up have led to more patients receiving their diagnoses at a more advanced stage of their disease. This means both that they will require more complex treatments than they would otherwise, and that there will be more deaths from cancers (Maringe et al., 2020). This has reduced cancer patients' chances both of surviving their cancer, and of enjoying a good quality of life.

The exact magnitude of effects on survival will only become apparent in the next few years. But following the first peak of the pandemic and its observed effect of delaying cancer diagnosis and treatment, researchers have already begun to make forecasts of the impact of these delays on patient survival rates (Hannah et al., 2020; Maringe et al., 2020; OECD, 2020b; Sud et al., 2020). Figures vary depending on national context, the methods used, and the type of cancer. But all the studies paint a bleak picture.

This chapter describes ways in which COVID-19 has reduced patient access to cancer care in 2020 and 2021. It describes the delays in access to cancer care due to the impact of COVID-19 on four patient access milestones (see Figure 1):

England

In England, delays in diagnosis and treatment are expected to increase the number of cancer deaths from 5% to 17% (depending on cancer type) within 5 years of diagnosis (Marigne et al., 2020).

France

In France, delayed diagnoses could lead to excess mortality of 10-15% per month of delay (OECD, 2020b).

Global study

A global study found that a treatment delay of four weeks is associated with a 6-13% increase in the risk of death. Delays of up to twelve weeks further increase this risk. In breast cancer, for example, an eight-week delay in surgery increases the risk of death by 17%, while a twelve-week delay increases it by 26% (Hanna et al., 2020).

Research and development

Clinical trials of potential new cancer treatments are a key step in bringing new therapeutic options to patients. These experimental therapies are often a last hope for patients with no other treatment options left. The continuity of the research and development process has been severely impacted by the COVID-19 pandemic in multiple ways.

Clinical trials have been delayed or put on hold

Medical institutions started cancelling clinical trials in March 2020 (Voisin et al., 2020).

Global

In May 2020, a global survey found that 19% of brain tumour patients could no longer enrol in clinical trials due to COVID-19 (Voisin et al., 2020). In July 2020, over 20% of global oncology trials were halted because of the pandemic, with breast, prostate and lung cancer trials impacted the most (Tempest & Taylor, 2020).

UK

In March 2020, the National Institute for Health Research (NIHR) in the United Kingdom decided to prioritise COVID-19 related trials and paused all other new or ongoing trials, as well as non-COVID laboratory-based medical research (United Kingdom Lung Cancer Coalition, 2020).

Spain

A large university hospital in Spain reported that in March and April 2020, the number of cancer patients enrolled in clinical trials decreased by 43% (Manso et al., 2020).

Europe

In March and April 2020, a survey among seven investigators leading trials in Europe indicated that patient enrolment in active oncology clinical trials was negatively affected at the time of the survey, with only 14% of the institutions continuing to enrol patients at the usual rate (Upadhaya et al., 2020)

Every day counts - The impact of COVID19 on patient access to cancer care in Europe

"In one of the clinical trials I am involved in, a forecast was made a year ago on the number of patients with stage III lung cancer that would be included. However, a year after COVID-19, the same doctors are no longer seeing that many patients with stage III lung cancer, as patient are now presenting themselves when they are already in stage IV of the disease. These patients are collateral damage of COVID-19, as they lost the opportunity to access a potentially better treatment for their disease."

- Patient representative in the EOP European multi-stakeholder Sounding Board

Clinical trials which were able to continue faced delays as research ethics committees who would normally approve such trials were often engaged with COVID research (Lorgelly & Adler, 2020), laboratories were forced to close (Ledford, 2020), staff were reassigned and resources were redirected to manage the rapid influx of patients with COVID-19 (Saini et al., 2020, Ledford, 2020).

There was also a slowdown in patient enrolment. Worldwide, COVID-19 negatively affected 34% of decisions by patients with brain tumours on whether they would enrol in a clinical trial (Voisin et al., 2020). Cancer patients with depressed immune systems due to the treatment they were receiving had to be shielded during the pandemic (Tempest & Taylor, 2020), and travel restrictions often prevented trial participants from visiting hospitals for research-related appointments (Saini et al., 2020).

Clinical trials outcomes have been compromised

Not only were clinical trials cancelled or delayed, but those trials which could continue often required significant changes in set-up. In May 2020, COVID-19 led to protocol changes which affected 16% of brain tumour patients enrolled in a clinical trial (Voisin et al., 2020). These protocol deviations are highly likely to lead to difficulties in convincing stakeholders of the efficacy of promising therapies.

- In cases where biopsies and imaging had to be cancelled, it is likely that demonstrating progression-free survival endpoints based on clinical (rather than patient-reported) outcomes measures will be difficult.
- Quality of life endpoints will be affected if patients miss study visits, and reporting of adverse events could well be jeopardised.
- COVID-19-related deaths are likely to affect survival endpoints in some studies (Lorgelly & Adler, 2020, Saini et al., 2020).

Marketing Authorisation

Charitable research funds have been reduced and private equity funds are expected to decrease

The pandemic has a negative effect on the funding of clinical trials. Venture capital funding is more difficult to secure during a recession (Lorgelly & Adler, 2020) and many charitable research funds have had to reduce their research expenditure considerably as fundraising opportunities had to be cancelled (Erasmus MC, 2020).

In the medium to longer term, these trial cancellations and delays will lead to delays in making new treatment options available to patients.

UK

Cancer Research UK was forced to reduce research expenditures by £150 million per year for the 2021-2023 period, representing a 50% cut (UK Lung Cancer Coalition, 2020).

Once cancer treatment has successfully progressed through the clinical trial phase and the European Medicine Agency (EMA) has made a positive assessment of its quality, safety and efficacy, a new cancer therapy will receive a Marketing Authorisation allowing it to be brought to European markets. Delays have occurred in this phase despite the dedicated taskforces set up to safeguard EMA's non-COVID-19 activities, while ensuring rapid evaluations of COVID-19 vaccines.

The scientific evaluation and marketing authorisation process has slowed

The EMA has focused on expediting the development of COVID-19 medicines and vaccines to fight and prevent the spread of COVID-19. At the same time, it has aimed to ensure the assessment and monitoring of cancer medicines is not disrupted (European Medicines Agency, 2020). Regulatory committees are, however, likely to face staffing challenges, as many members are clinicians, public health or allied health professionals. There will also be one-off delays due to identifying, procuring, and implementing secure videoconferencing platforms. Patient participation in these committees may also have been negatively affected by the switch from physical to virtual meetings. (Lorgelly & Adler, 2020).

Market Access

Once a new therapy has received Marketing Authorisation, national authorities must decide on reimbursement. A health technology assessment (HTA) is conducted to evaluate the medical need, the clinical effectiveness in relation to the current standard of care, the cost-effectiveness, and/or the overall potential budget impact of the therapy.

The COVID-19 pandemic has impacted on this process in (some) European countries in three different ways. All these factors may decrease speed of access to innovative oncology treatments for current patients and reduce the rate of reimbursement of innovative therapies for future patients.

The health technology assessment (HTA) process has slowed

Ongoing HTAs for cancer treatments have been delayed. As with regulatory agencies, HTA committees face staffing challenges and delays due to the need to implement secure videoconferencing platforms. Additionally, patient participation in these committees may have been negatively affected by the switch from physical to virtual meetings (Lorgelly & Adler, 2020).

France

In France, the Haute Autorité de Santé (HAS) released an updated agenda prioritising assessments for drugs intended to manage the COVID-19 epidemic as well as treatments for oncology, paediatric conditions and diseases with a high unmet need (Haute Autorité de Santé, 2020).

Italy

The Italian team had to withdraw from its authoring role in a joint EUnetHTA assessment due to the COVID-19 outbreak (EUnetHTA, 2020).

HTA bodies are also experiencing delayed responses to their questions from pharmaceutical companies. Delays in HTA and reimbursement decisions could lead to serious post-crisis backlogs which could prevent patients from accessing promising drugs as quickly as would otherwise be possible.

Assessment and reimbursement of non-COVID therapies have been deprioritised

Pricing and reimbursement assessment processes for oncology therapies are being delayed or put on hold.

Poland

In April 2020, the Ministry of Health in Poland announced their reimbursement list would not change until after the pandemic was over (APM International, 2020). There was a delay of two months as the country missed one bimonthly list update, after which the regular assessment process was restored.

Scotland

In May 2020, Scotland suspended meetings of its HTA body and halted new submissions due to COVID-19 (APM International, 2020).

Europe

EUnetHTA decided to deprioritise non-COVID-19 initiatives until the end of May 2021 (EUnetHTA, 2020). This is a result of some 23 EUnetHTA Rolling Collaborative Reviews (RCR) currently being performed for COVID-19 treatments (EUnetHTA, 2020).

Downward pressure on budgets for innovative therapies is expected to increase

At the EU level the economy contracted in 2020, leading to a decrease in GDP and increases in government deficit and unemployment rates (Eurostat, 2021). This may lead to long-term healthcare budget cuts, as was the case after the global economic crisis in 2008.

In 2010, after years of continuous growth, OECD countries reported close to zero growth in health expenditure due to a combination of reductions in government spending and reductions in wage-based contributions. Every sector of the healthcare system faced reduced budgets, with pharmaceuticals and public health & prevention services hit hardest (OECD, 2014). The trend of decreasing European healthcare budgets has continued since then (Eurostat, 2021b).

In addition to reductions in healthcare expenditures, potential reallocations of budgets towards infectious diseases may lead to payers making harsher prioritisation decisions. These choices could negatively impact already tight budgets for cancer care, new cancer treatments and HTA bodies.

Patient access

According to the World Health Organization (WHO), 55% of countries reported disruptions to their cancer services due to the pandemic. Disruptions to screening, diagnosis, treatment, and follow-up are apparent in many European countries.

In Germany for example, the German Cancer Research Centre (DKFZ), German Cancer Aid and the German Cancer Society (DKG) set up a joint task force in March 2020 to assess possible access barriers for cancer patients and inform decision-makers and the public. Their research among German Comprehensive Cancer Centres in the period of April to August 2020, found a "significant disruption of care", although barriers to acute oncology care were not consistent during this period (Fröhling & Volker, 2020).

Screening & Diagnosis

For cancer patients, early diagnosis is a key determinant of timely treatment and survival outcomes.

If breast cancer is detected at stage I, the 5-year survival rate is nearly 100%. If detected at stage III it falls to 72% (John & Broggio, 2019). Lung cancer follows the same pattern, with one-year survival reaching 87.3% for stage I disease, but only 18.7% for stage IV (Hawkes, 2019).

But European cancer diagnosis rates plummeted when the pandemic started. This problem has been reported in several countries:

France

In France, the number of cancer diagnoses decreased by 36% in April 2020 compared to April 2019. Three months later, doctors reported the 18 cancer centres concerned had not started catching up with this backlog (Santi & Pineau, 2020).

Germany

In German hospitals, cancer cases decreased during the first national lockdown (between March 12 and April 19, 2020) by between 14% (for breast cancer) and 23% (for prostate cancer) (Initiative Qualitätsmedizin, 2020; Kampf & Kulldorff, 2021).

Austria

Eighteen Austrian cancer centres reported a 40% drop in breast cancer diagnoses between March and May 2020 (Österreichischen Gesellschaft für Senologie, 2020).

Screening programmes for early detection of cancer have been suspended

A major factor behind the decline in cancer diagnosis was the closure of screening programmes in many countries. Globally, 41% of nations (including several European countries) reported they had taken this measure in response to the pandemic (World Health Organization, 2020).

Netherlands

The Netherlands saw a 25% decrease in cancer diagnoses in March 2020 (Dinmohamed et al., 2020). The accrued backlog of cancer diagnoses was largely cleared during the autumn of 2020, with a remaining backlog of 4,000 (3.5%) cancer diagnoses at the end of 2020. The backlog was largest for breast cancer and colon cancer (Integraal Kankercentrum Nederland, 2021; Maag Lever Darm Stichting, 2021).

Belgium

In April 2020, the number of cancer diagnoses in Belgium decreased by almost 50% compared to the same period in 2019. Subsequent months showed a partial recovery. However, a backlog of one month of cancer diagnoses remained, and the second wave of the pandemic was still to come at the time of analysis (Belgian Cancer Registry, 2020).

Italy

In Italy, an estimated 1.4 million fewer screening exams were performed during the first five months of 2020, compared to the same period in 2019 (OECD, 2020b).

Germany

In Germany, the Joint Federal Committee suspended mammography screening in April 2020 to reduce unnecessary contact between people (Fröhling & Volker, 2020).

Austria

Similarly, Austria **suspended breast cancer screening for two months**, but was able to make up the backlog after radiological departments reopened (Österreichische Krebshilfe, 2020).

Patients experiencing symptoms have visited primary care services less often

Another reason for a lower number of diagnoses is that patients are reluctant to visit primary care due to the fear of getting infected, assumed or actual limited capacity in primary care centres, or because patients do not want to waste a doctor's time for non-COVID-19-related symptoms. This is fuelled by public health messages encouraging people to stay at home and media attention on the postponement of elective care (Dinmohamed et al., 2020, Ipsen, 2020).

Netherlands

As of March 2020, the Netherlands halted national screening programmes for breast, colorectal, and cervical cancer. Screening was continued during the summer period, but the number of invitations was lower than usual (Rijksinstituut voor Volkgsgezondheid & Milieu, 2020). For breast cancer screening, it was decided to reduce screening frequency from every two years to every three years, due to a shortage of health personnel which was exacerbated by the pandemic (Bevolkingsonderzoek Nederland, 2020).

Spain

Screening numbers in Spain dropped dramatically: the number of colorectal cancer patients diagnosed based on screening dropped from 33.3% in March to June 2019 to 5.2% in the same period in 2020 (Suarez et al., 2020).

UK

10 weeks of lockdown in the UK led to a two million procedure backlog in screening (Tempest & Taylor, 2020), as screening services were formally 'paused' in Scotland, Wales, and Northern Ireland, and effectively paused in England as invitations were halted (Hiom, 2020).

We should prevent late detection of cancer patients, resulting in more late-stage cancers, lower survival rates, complications and overall degeneration of quality of life, and higher costs and human misery.

- Patient representative in the EOP European multi-stakeholder Sounding Board

Doctors have referred fewer patients for further examination

England

At the start of the outbreak in England, urgent referrals for early diagnosis of suspected cancers decreased by 76% compared with pre-COVID-19 levels (Lai et al., 2020; Kampf & Kulldorff, 2021).

Spain

A fall in oncology referrals was reported in Spain (OECD, 2020b).

Many consultations for non-acute issues have been transitioned to telehealth, delaying physical examinations for symptoms which do not directly suggest cancer (Dinmohamed et al., 2020). Doctors may also be reluctant to send patients to a hospital for fear of COVID-19 infection (Hiom, 2020). In the case of lung cancer, delays are worsened, as early lung cancer symptoms may easily be misdiagnosed as COVID-19 (UK Lung Cancer Coalition, 2020).

Hospital diagnostic capacity has been reduced

The decline in cancer diagnoses is due to diagnostic tests being deferred, following a reallocation of scarce resources towards COVID-19 (Dinmohamed et al., 2020).

UK

In the United Kingdom, appointments for (PET-)CT scanning were put on hold for three months during the initial phase of the pandemic. At the same time, infection control measures almost doubled the time required per diagnostic scan. Diagnostic capacity is thus likely to be a key bottleneck, leading to further delays once cancer services are resumed and backlogs start to be addressed (UK Lung Cancer Coalition, 2020, Tempest & Taylor, 2020).

These factors have led to a significant backlog in screening and diagnosis across Europe. This is expected to lead to delays lasting beyond the current restriction measures. The exact impact on cancer deaths has yet to become clear, but projections suggest it may be severe.

Treatment & Follow-up

Health outcomes for cancer patients are likely to be negatively affected if care takes longer than it did before the disruption caused by COVID-19 (Whiting, 2020). Lung cancer specialists, for example, are concerned that some people with early-stage lung cancers are having their treatment delayed for three months or more, after which time it is less likely surgery will cure their cancer (UK Lung Cancer Coalition, 2020).

Countries across the globe report the pandemic has resulted in lower outpatient care attendance (World Health Organization, 2020), and hospital admissions have also fallen in European countries.

England

In England, hospital admissions for chemotherapy appointments have fallen by 60% (Kampf & Kulldorf, 2021; Lai, 2020).

Spain

In Spain (Madrid), outpatient visits to oncology departments fell by 23% between 9 March and 13 April 2020 compared with the same period in 2019 (OECD, 2020b).

Netherlands

30% of patients in the Netherlands reported consequences for their cancer treatment or follow-up. Most consultations were switched to an online meeting, and chemotherapy and immunotherapy treatments were adjusted (de Joode et al., 2020).

Europe

Seven comprehensive care centres in Europe reported that in April 2020 the number of cancer patients admitted fell by 20-30% (Van de Haar et al, 2020).

These disruptions in treatment (including life-saving interventions) result from the impact of COVID-19 on patient's care-seeking behaviour, clinical decision-making and the availability of hospital resources, for example facility closures, staff shortages or supply issues (World Health Organization, 2020).

Patients are less likely to visit the hospital for their cancer care

During the pandemic, many cancer patients have been faced with a dilemma. They must choose between attending their hospital appointment and risking exposure to COVID-19 or staying at home and risking their cancer progressing further.

Poland

In Poland, 20% of patients with cancer considered postponing chemotherapy and 5% considered abandoning further cancer treatment during the pandemic, despite a fear of cancer progression (Ciążynska et al., 2020).

Furthermore, lockdown and quarantine have made travelling to appointments or obtaining essential medicines more difficult (Dinmohamed et al., 2020). In some cases, financial difficulties caused by the lockdown negatively impacted care-seeking behaviour (Voisin et al., 2020, World Health Organization, 2020).

Doctors have had to made new trade-offs between the risks and benefits of cancer treatment

Therapeutic decisions should normally favour the most effective and least invasive approach with the lowest risk of adverse outcomes. For many cancer patients at the onset of the pandemic the risk of weakening the immune system through exposure to a novel and poorly understood virus was deemed unacceptable. This led to adjustment of medication, radiotherapy, surgery and palliative care for cancer patients, or the temporary discontinuation of treatment (Hannah et al., 2020; Van de Haar et al., 2020).

The immunosuppressant impact and side effects of chemotherapy meant this treatment was largely stopped during the initial wave of the pandemic, with patients switched to less toxic treatments. Intravenous treatments were swapped for oral or subcutaneous treatments (Van de Haar et al., 2020). Treatment delivery schedules were amended to reduce the frequency or dosing of administration, and targeted treatments have been moved forward along the treatment pathway (UK Lung Cancer Coalition, 2020). These changes were not necessarily to the detriment of patients, as sometimes they improved care. However, patients expressed concerns about the changes (De Joode et al., 2020; Voisin et al., 2020).

Surgeries and regular palliative care therapies were often cancelled, postponed, or adjusted as the risks were deemed too high for patients and staff (Hiom, 2020; Onesti et al., 2021; Saini et al, 2020; UK Lung Cancer Coalition, 2020; Van de Haar et al., 2020). While not all changes were negative for patients, surgery being delayed by two or three months can significantly affect outcomes, especially since it is difficult to predict future capacity problems which may be caused by new peaks of the pandemic (Battisti et al., 2020; Van de Haar et al., 2020).

Doctors had fewer opportunities – especially at the start of the pandemic – to learn about the latest research findings and new cancer treatments, as large-scale congresses, which are usually the opportunity for dissemination of this information, were cancelled (Lancet Oncology, 2020). This negative impact has been mitigated through the organisation of virtual conferences, such as the ESMO Virtual Plenaries. These are monthly live presentations

"Surgery was the most affected modality being delayed or cancelled in more than 10% of patients in 34% of the centres, whereas early cessation of palliative treatment was reported in 32.1% of the centres"

- Findings from a survey among 109 medical oncologists from 18 countries in Europe (Onesti et al., 2021)

of the latest, original scientific clinical trial which demonstrate remarkable therapeutic benefit, scientific insight, or progress in an area of unmet need (ESMO, 2021). In some instances, these Virtual Plenaries allowed even more participants to attend than the face-to-face events held before the pandemic.

Making an optimal assessment of treatment benefits and risks in this context is especially challenging in the case of older cancer patients. As elderly patients are more likely to have comorbidities such as cardiovascular disease, diabetes, chronic respiratory disease and chronic renal impairment, they are at additional risk for worse outcomes from COVID-19. For this group, a thorough geriatric assessment and personalised care will help avoid over- or under-treatment. Offering this level of care is particularly challenging in the context of overloaded health systems (Battisti et al., 2020).

Availability of healthcare personnel has been limited

In many European countries, a lack of health personnel has been a key bottleneck in ensuring continuity of care during surges in demand (Hiom, 2020; OECD, 2020). At the initial stages of the pandemic staff were frequently redeployed to provide COVID-19 relief, did not have enough protective equipment, or were not available due to physical or mental health issues related to working through the pandemic (Hiom, 2020; WHO, 2020).

Italy

In the areas most affected by COVID-19 in Italy, 38 to 51% of oncologists were reassigned to take care of COVID-19 patients (Indini et al., 2020).

Staff health and morale are a major concern, especially as health professionals were contracting COVID-19 infections. Many are struggling with the psychological impact of the decisions the pandemic is forcing them to make, and the resulting impact on their patients. (Hiom, 2020; Saini et al., 2020). More than one third of oncologists reported an increase in the demand for cancer patient support services due to COVID-19 concerns or anxiety (IQVIA, 2020). They are concerned about the lack of support and treatment options they can provide to their cancer patients.

These demanding conditions could make staff vulnerable to moral injury – psychological distress that occurs from actions (or the lack of actions) that go against an individual's moral code (Davies et al., 2020). Studies have reported

increased rates of depression, anxiety, stress, insomnia, symptoms of post-traumatic stress disorders and other mental health conditions among health professionals from England, Wales, Italy, and Spain (OECD, 2020b). In July 2020, 18% of medical oncologists indicated that the well-being of healthcare staff would not recover by the end of 2020 (Onesti et al., 2021).

Resources for blood transfusion and surgical care have been in short supply

The above-mentioned trade-offs between the risks and benefits of treatment and the limited availability of health personnel have forced hospitals around the world have to postpone planned elective surgical interventions.

The pressure on ICUs has meant cancer patients are unable to have surgery due to a lack of recovery beds with ventilation, and a lack of ICU beds if surgery were to go wrong (Hiom, 2020; UK Lung Cancer Coalition, 2020).

Furthermore, the pandemic has exacerbated existing shortages in blood supply (Schlesinger et al, 2020). Cancer patients may require blood transfusions in case of blood loss during cancer surgery, or to replenish functioning blood cells lost during chemotherapy, radiation or because of the cancer itself. Blood donation centres have closed, and donations have fallen due to social distancing or (self-)quarantine (Shander et al., 2020). This is leading to shortages of blood and the postponement of elective surgery and other cancer treatments (Gehrie et al., 2020).

Apart from emergency operations, essential procedures may include those which are termed elective, but where a delay of two to three months could significantly affect outcomes, and/or those where surgery is a crucial component of managing cancers including breast, colon, gastric, pancreatic, liver, bladder, renal, lung and brain tumours (Battisti et al, 2020; COVID19 Subcommittee of the O.R. Executive Committee at Memorial Sloan Kettering, 2020).

Six recommendations for improving patient access to oncology care

Health systems must **absorb** the impact of disruptions caused by COVID-19 both during and after the pandemic, when systems will try to **recover** and catch up.

The challenge is to look beyond the current crisis and make sure health systems adapt to make cancer care delivery more resilient to future shocks and sustainability challenges (OECD, 2020b; World Economic Forum, 2021; World Health Organization, 2020, see Figure 3).

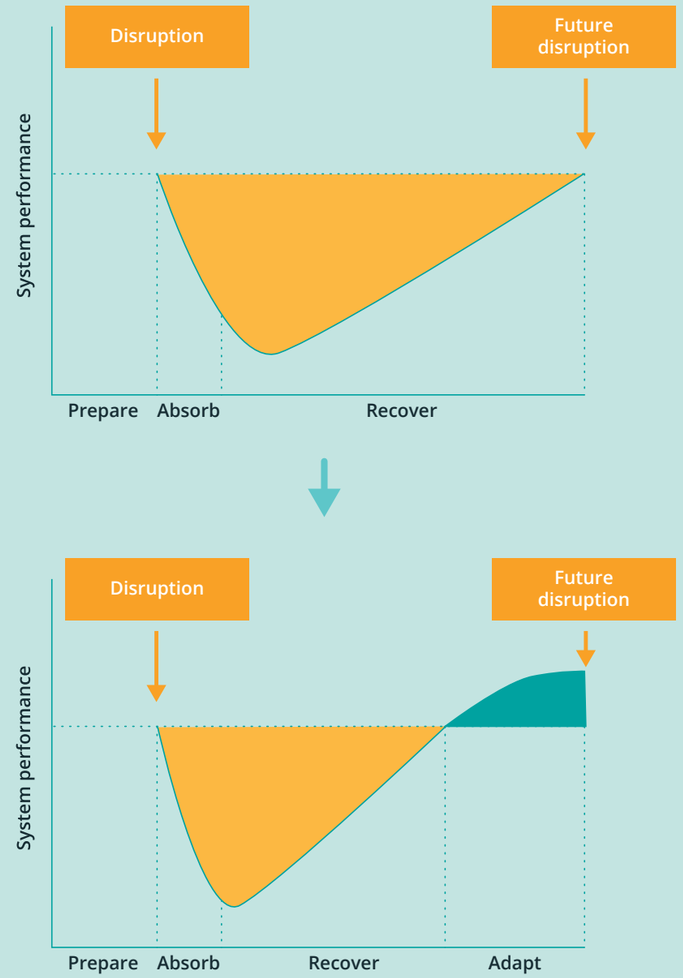
In addition to disrupting patient access to oncology care, the pandemic has served as a catalyst for new, improved healthcare techniques, models, partnerships, and policies in cancer care. If they are heeded, they can improve patient access to cancer care for generations to come.

The lessons generated during the pandemic are translated into recommendations for European health systems to help them recover optimally from the COVID-19 disruption, while adapting to be able to absorb future shocks more effectively.

Some of the recommendations may not be new. Many of the changes required to make European health systems more sustainable have been known for years. Yet realising these changes is both a difficult and lengthy process (Braithwaite, 2018). COVID-19 provides momentum to optimally use the best practices and learnings generated during the pandemic. Now is the time to prioritise these recommendations to realise lasting changes to strengthen patient access to cancer care throughout Europe.

The way in which COVID-19 vaccines were brought to patients at record-breaking speed, while emergency access to care was protected, shows how stakeholders can join forces to solve serious challenges successfully and provide rapid patient access. A common goal, a sense of urgency, mutual trust and combining efforts allows us to break down silos and refocus divergent interests. If stakeholders are willing to apply these lessons to addressing patient access in cancer care, the following recommendations offer a good starting point for improving patient access to cancer care in Europe.

Figure 5
Disruptions are here to stay: this chapter describes 6 recommendations to optimally recover and adapt to improve performance of oncology care in Europe (OECD, 2020).



1

Clear the cancer backlog now, using innovative practices which emerged during the pandemic

Many hospitals prioritised cancer care during COVID-19. The board of the Belgian University Hospital Antwerp (UZA), for instance, explicitly adopted the mantra: "cancer care should continue as much as possible" at the very beginning of the COVID-19 crisis. This gave every hospital employee creative licence to explore alternatives which would allow cancer care to continue. In this way, UZA has continued to provide cancer care and let scientific studies continue without significant delay (Ipsen, 2020).

Yet, despite the many ways in which health systems have been able to absorb the impact of the crisis while mitigating the impact on cancer patients, healthcare systems will face a significant backlog of cases as they move to the recovery phase. This backlog will further delay both a return to normal cancer service levels (World Economic Forum, Jan 2021), and the implementation of improvements resulting from COVID-19 learnings.

In oncology, time is life. Delays in access to cancer diagnosis, treatments and follow-up mean more complex treatments and palliative care, reduced quality of life and a decrease in survival chances (Marigne et al., 2020; OECD, 2020b; Hanna et al., 2020). Clearing cancer backlogs should be a key priority for European health systems.

Health systems should immediately resume screening programmes, as cancer will not wait for COVID-19 to pass.

- During COVID-19, an extensive infrastructure was put in place for COVID-19 testing and vaccination (e.g. drive-in centres).
- In the United States, public-private partnerships have been established to offer additional cancer screening sites and extend the hours of existing screening sites to address the cancer backlog.
- The use of e.g. "teledermatology" as a screening tool took off during the pandemic (Elsner, 2020) to reduce waiting times for in-person visits, improve health care access and use public resources wisely (Giavina-Bianchi et al., 2020).

These experiences provide structures and lessons which could be used to clear the screening backlog.

Dedicated specialist taskforces should address backlogs in surgery, radiation, and therapy provision. Learnings from 2020 and early 2021 could help in this regard.

- Since the start of the pandemic, treatment schedules have been amended to avoid hospital visits and side effects, and to free up hospital capacity. New diagnostic tests can quickly and efficiently provide a diagnosis with minimal interaction from healthcare professionals: bronchoscopies in lung cancer have been replaced by molecular profiling, and liquid biopsies which can detect tiny amounts of cancer in the blood have replaced diagnostic procedures requiring a surgical intervention (WEF, 2021). Radiation treatment schedules have been shortened and blood management practices have improved. Targeted treatments have moved forward in the treatment pathway, and treatments are being administered less frequently. Closely following the outcomes of these changes, could provide several learnings for the future for optimising and adapting the delivery of cancer care.
- The accelerated roll-out of virtual multi-disciplinary team meetings has reduced time investments and hospital capacity needs.
- Collaboration within care networks allows regional capacity planning, concentration of care and knowledge sharing.

These changes have the potential to improve outcomes for cancer patients while reducing overall costs and freeing up resources for recovery and adaptation.

2

Maintain the proven agility of R&D and Marketing Authorisation processes

Cancer researchers have sought ways to keep trials running as much as possible, especially for therapies with a clear potential clinical benefit and no viable substitutes (Lee McFarling, 2020, Ipsen 2020). COVID-19 has catalysed the use of innovations, including:

- Signing consent forms electronically and remotely
- Reducing the frequency of administering infusions through an adjusted dosing scheme
- Mailing oral cancer drugs to patient's homes
- Piloting devices which allow patients to draw their own blood
- Increasing usage of telemedicine and digital tools to monitor patients and collect data

Agencies including EMA and the UK Medicines and Healthcare products Regulatory Agency (MHRA) issued guidelines on managing clinical trials during the COVID-19 pandemic, stressing the importance of pragmatism and flexibility in tumour assessments and visits (Saini et al., 2020).

Whereas clinical trial participants used to attend trial sites in person (sometimes just to sign forms, get a quick medical check or pick-up medicine), they can now participate in a trial remotely. This is important for weak or immunocompromised patients, as well as for participants who need to take time off from work or arrange day care. This could be helpful in the future, especially for clinical trials in rare cancers or rare genetic targets, which have often faced the challenge

"Instead of having a patient come in so we can dispense an investigational drug in a vial, we now ship it to them overnight."

- Oncologist (Lee McFarling, 2020)

that too few patients can reach a clinical trial site (Fred Hutch, 2020; Lee McFarling, 2020).

The pandemic has led to strong collaborations between pharmaceutical companies, clinical trial sites and regulators to streamline trial design and approval. In the United Kingdom, this resulted in approval and initiation of COVID-19 related clinical trials within weeks rather than months or even years as was normal previously (UK Lung Cancer Coalition, 2020).

The EMA introduced rolling reviews to speed up the assessment of promising medicines or vaccines during a public health emergency. Normally all data on a medicine's effectiveness, safety and quality and all required documents must be submitted at the start of the evaluation in a formal application for marketing authorisation. In a rolling review, EMA reviews this data as it becomes available from ongoing studies. This allows an opinion to be formulated sooner. Once it is decided sufficient data are available, a formal application can be submitted, and a Marketing Authorisation decision can be made much more quickly (EMA, 2021).

During the rolling review, and throughout the pandemic, EMA and its scientific committees are supported by the COVID-19 EMA pandemic task force (COVID-ETF). This group brings together experts from across the European medicines regulatory network to advise on the development, authorisation and safety monitoring of medicines and vaccines for COVID-19 and to facilitate quick and coordinated regulatory action.

We should learn from processes introduced during the pandemic to streamline R&D and regulatory processes for marketing authorisation for future breakthrough therapies in oncology.

3

Continue the intensified European collaboration in clinical assessment to use scarce HTA resources more efficiently after the pandemic

Prior to the pandemic, differing European HTA evidence requirements and the European scarcity of HTA resources delayed patient access to innovative oncology therapies (Vintura, 2020).

The way in which the EMA has improved the efficiency of granting Marketing Authorisations hints that increased European HTA collaboration in clinical assessments would speed up patient access. European cooperation and alignment would also reduce the duplication of efforts and allow for more efficient use of scarce human and financial resources in a post-COVID era.

EUnetHTA has facilitated HTA collaboration across Europe and joint clinical assessments. To further formalise European collaboration, the European Commission has introduced a Proposal for a Regulation on Health Technology Assessment. The proposal has been discussed extensively but divergent positions remain. At the end of 2020, the German Presidency introduced a new proposal for stronger collaboration, initially limited to cancer medicines. According to the proposal, Member states would not be obliged to use results from an EU-wide HTA: according to their national health care context, they can decide which parts of the reports they consider. In February 2021, the Portuguese Presidency submitted an updated version of this proposal, comprising the same main lines and a few new items to facilitate a consensus.

"The COVID-19 pandemic and the experience with vaccine development have clearly shown us that when we come together, when we pool our efforts and resources, it is possible to make unprecedented progress. It requires the unique convening power of the EU, fixing goals, setting clear deadlines, committing the necessary funding and connecting the main actors through effective partnerships. Applying this approach to cancer can deliver effective results. By working as a team and combining efforts at national and EU level, we can overcome individual weaknesses, reduce fragmentation, and deliver a more effective and more equal response to cancer."

- Europe's Beating Cancer Plan (European Commission, 2021)

Although this proposal might be an important compromise to continue and strengthen European HTA collaboration, it adds an additional layer of HTA over existing and varied evidence requirements. This could endanger the goal of consolidating effort and speeding up patient access.

The COVID-19 pandemic and related vaccine development have clearly shown joint clinical assessments is possible. This is recognised in Europe's Beating Cancer Plan (European Commission, 2021).

4

Continue the adoption of digital health to increase remote care and use healthcare resources more efficiently after the pandemic

One of the developments that has been catalysed most by the pandemic is the use of telemedicine.

- In France, there was a 50-fold increase in teleconsultations between 23 and 29 March 2020 compared to the situation in the previous months.
- In Germany, the number of teleconsultations performed in March 2020 was estimated to be 11 times higher than the average for January and February 2020.
- In Norway, the share of e-consultations in primary care increased by a factor of 12, from 5% between 2 and 8 March to almost 60% between 16 and 22 March 2020 (OECD, 2020).

Virtual interaction has been used for oncologist consultations (including for physicians who need to self-isolate), psycho-social care, physiotherapy, and geriatric assessments (Battisti et al., 2020; Illarramendi et al, 2020; Lee McFarling, 2020; Van de Haar, 2020; Van der Lee & Schellekens, 2020).

- In Spain, teleconsultations were used for psycho-social support for cancer patients. Carers were encouraged to take part in consultations to improve support and communication (Illarramendi et al, 2020).

Telehealth is an important facilitator in moving some cancer care from the hospital to home. Some (oral and subcutaneous) medical treatments as well as blood testing and some follow-ups can be transferred away from the traditional hospital setting (Roche/Vintura, 2020).

- Seven comprehensive cancer care centres in Europe recommend, when possible, that blood tests are performed outside the hospital (e.g., at a general practice or at home), that oral medications are delivered to the patient's home (rather than being picked up at the pharmacy), and that intravenous maintenance treatments are organised at home (Van de Haar, 2020).
- In Portugal, the government allowed the delivery of medicines previously dispensed in hospitals via community pharmacies or straight to the home (Ordem do Médicos, 2020).
- Greece installed an e-prescription process in March 2020, that allowed patients to receive cancer specialist prescriptions without going to the hospital (EOPYY, 2020). This was complemented by allowing patients to receive medicines previously dispensed in hospitals via community pharmacies (EOPYY, 2020b&c).

Though it has been extremely useful during the pandemic, telehealth is not a substitute for all healthcare services. Patients agree: in a global survey, brain tumour patients reported concern about poorer communication during telehealth assessments (Voisin et al., 2020).

The health risks and care disruptions brought by the pandemic have added a psychological toll to the concerns of cancer patients and survivors. This is often combined with the effects of isolation from friends and family (guidelines for cancer patients often recommend complete isolation from the outside world and from family members who are in contact with the outside world), limited access to regular support from a cancer nurse, and/or limitations in available treatment options during the pandemic (Davies et al., 2020).

All these factors contribute to a high prevalence of fear, anxiety, and depression in cancer patients (Chen et al., 2020; Lymphoma Coalition, 2020; Van de Haar et al., 2020). Doctors are often not able to offer the comfort and reassurance they would like to give during phone consultations (Hiom, 2020).

Demand for counselling and mental health assistance has skyrocketed (Van de Haar et al., 2020). Patient organisations have been able to take over parts of this role (Quinn et al, 2020; ABC Global Alliance, 2020). However, the resources of cancer charities have been running dangerously low, and emergency financial support is needed to maintain these important services (Das, 2021)..

- Seven in ten organisations supporting lymphoma patients have seen an average 49% increase in the number of calls and emails (Lymphoma Coalition, 2020).
- In May 2020, a survey among 157 patient organisations from 56 different countries indicated that only 5% of patient organisations were confident of their financial position as a result of the impact of the pandemic (ABC Alliance, 2020).

Digital health and remote care have enormous potential for increasing patient satisfaction and allocating hospital resources in a more efficient way. However, to unlock these opportunities, research and best practice sharing should increase to optimise the use of remote consultations. Regulations and reimbursement frameworks should allow for implementation of new and cost-effective models of delivering remote cancer care. The role of patient organisations in providing remote counselling support should be recognised and formalised in support of digital health and remote care.

5

Maintain and build adaptive surge capacity to be ready for future disruptions to cancer care

Organisations across the health system are struggling to absorb increases in caseload caused by COVID-19. New pandemics will emerge, so health systems need to be better able to respond to future surges in demand. A structural scaling up of resources may not be possible or efficient, so the challenge is to instil flexibility and agility to allow both rapid response to disruptions, and the continuance of regular activities as far as possible.

- During the pandemic, the EMA established dedicated taskforces to ensure rapid evaluations of COVID-19 vaccines and safeguard its non-COVID-19 activities (EMA, 2020).
- Cancer centres in Germany, Italy, France, and the Netherlands stayed COVID-free to ensure clinical and intensive care capacity for cancer surgeries and management of side effects (Van de Haar et al., 2020).
- Temporary field hospitals were set up in many countries, including Italy, Spain, and the United Kingdom, to relieve the burden of patients in mild to moderate conditions on specialist health care facilities. This was intended not only to address the urgent need for hospital beds, but also to support hospitals in their recovery (McMurtry, 2021; CNN, 2021; Sachetto, 2020; Szarpak et al, 2020).
- Hospitals started to collaborate (even across borders) to make maximum use of spare capacity (Van de Haar et al., 2020; OECD, 2020b).

"Investing in health workers pays a triple dividend for health, economic growth and gender equality."

- Tedros Adhanom Ghebreyesus, Director-General of the World Health Organization (United Nations, 2020)

A lack of health personnel is likely to be the major constraint on increasing flexibility, due to the time required to train skilled health professionals. But even here, there are creative solutions:

- France mobilised and expanded its existing pool of reserve healthcare staff ("Réserve Sanitaire"), during the COVID-19 outbreak (OECDb).
- Belgium, Iceland and Ireland quickly set up new "reserve lists" to deal with the outbreak and reallocate staff across localities (OECDb).
- At least half the countries in Europe recalled inactive and retired health professionals (OECDb).
- Most countries mobilised students nearing the end of their studies to assist the population via telephone hotlines and support service delivery (OECDb).
- Two thirds of countries transferred some health workers to hospitals in regions that were more affected by the pandemic (OECDb).
- Sweden is encouraging flight attendants and personnel from sectors that were badly hit by the pandemic to retrain to help hospitals with the coronavirus crisis (CNN, 2020).
- In Italy, military healthcare professionals were redeployed to support service delivery in hospitals (Maier et al., 2020).
- Seven comprehensive cancer centres in Europe recommend a rapid diagnostic system for assessing healthcare professionals providing cancer care. This avoids unnecessary self-isolation due to COVID-19 related symptoms. Instead of being absent for 2-3 days for testing and self-quarantine, professionals receive rapid testing and (if their test is negative) can be back in action within 6 hours (Van de Haar, 2020).

Countries also accelerated the implementation of policies to balance the skills mix between healthcare professionals. In Austria, France, Ireland, Portugal, Spain and the United Kingdom, pharmacists can now prescribe chronic medications and have been given greater power to extend prescriptions (OECD, 2020). Countries should consider training regular nurses on the basics of ICU care, to increase flexibility in staff deployment during disruptions.

Investing in the health workforce will support recovery and adaptation of the health system by yielding the triple dividend of access to health care, access to good jobs and the empowerment of women and minorities (United Nations, 2020). Another challenge is to develop flexibility in the deployment of health staff to allow maximum use of available resources.

6

Safeguard cancer budgets as a critical enabler for improving continuity, efficiency, and sustainability of cancer care

The increasing incidence of cancer, the increasing effectiveness of treatments and the fact that more and more treatments can be carried out on an outpatient basis mean cancer treatment is more of an investment than ever: healthier people who can carry on working drive healthy economies.

Prior to the pandemic, without further action, lives lost to cancer in the EU were set to increase by more than 24% by 2035, making it the leading cause of death in the EU. The overall economic impact of cancer in Europe was estimated to exceed €100 billion every year (European Commission, 2021).

Past decades have shown how European investments in cancer prevention, timely diagnosis and interventions and scientific advances in treatment options have reduced the number of cancer deaths and the burden of the disease on cancer patients. For European economies, this means an increase in life expectancy and productivity (Hofmarcher et al., 2019).

Following the pandemic, the risk of new health cost containment measures and potential reallocations of budget towards infectious diseases could lead to austerity measures and harsher prioritisation decisions which would reduce already tight budgets for cancer care, new treatments and HTA bodies.

The EU economy contracted in 2020, increasing government deficits and unemployment rates (Eurostat, 2021). Forecasts project the EU economy will grow by 3.7% in 2021 and 3.9% in 2022, reaching their pre-crisis levels of output earlier than anticipated (European Commission, 2021b).

However, the considerable debts accumulated by national governments and the financial support needed in areas of society heavily impacted by COVID-19, are likely to have an impact on national budgets in the years to come. As was the case after the global economic crisis in 2008, this may lead to long-term healthcare budget cuts (OECD, 2014).

One key learning from this crisis is that investing in strong and resilient health systems is crucial to mitigate the impact of external shocks on the wider economy. The healthcare austerity measures as put in place after the global financial crisis in 2008, should not be repeated this time.

Over the last 20 years, cancer spend has not increased as a proportion of total health expenditure, despite increasing cancer incidence rates (Hofmarcher, 2019). Gains in survival and productivity were maintained thanks to advances in treatments and care delivery models. But this system is under pressure.

A strong commitment is needed to maintain even current investment levels and progress made in terms of life expectancy and productivity. Countries should invest in maximising value for money in cancer care investments by combining improvements in efficiency with investments in innovation.

Several learnings from 2020 and early 2021 could help in this regard, as described in this report. A key prerequisite of using these learnings to improve cancer care is to safeguard and optimise the use of health- and cancer care budgets.

Cancer will not wait for COVID-19 to pass. In 2020 and 2021, governments were forced to adopt drastic measures to address the pandemic, often to the detriment of cancer care. It also forced health systems across Europe to accelerate the implementation of innovations which mitigate the negative impact on cancer patients and achieved equal or better outcomes for cancer patients from fewer resources.

Learning from these experiences is crucial to recover from the COVID-19 pandemic as soon as possible and make cancer care delivery more resilient to future disruptions and sustainability challenges.

Contributors

The following organisations contributed to this report by providing inputs, discussing report set-up and findings during the European multi-stakeholder Sounding Board meeting, and/or reviewing the final report.

Disclaimer: this publication is the result of a multi-stakeholder collaboration but does not necessarily reflect the views of individual organisations or people involved.

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