

Written evidence submitted by Lilly UK (CSV0053)

Introduction

Lilly is a US-headquartered pharmaceutical company with a major commitment to the UK. We are proud of our heritage in this country: Lilly UK was our first business to open outside the US in 1934, and today we remain a significant contributor to UK innovation and a key partner to the NHS on clinical research and health delivery, advancing science in areas of high unmet clinical need including diabetes, oncology, immunology, COVID-19 and Alzheimer's disease.

We welcome the opportunity to respond to the Health and Social Care Select Committee inquiry into cancer services.

To summarise, Lilly believes that:

- Although outcomes (pre-pandemic) have improved considerably in the last two decades, it remains concerning that England continues to lag international peers when it comes to cancer survival.
- The causes of differential rates in survival internationally are complex. However, stage at diagnosis and patient access to effective cancer treatments are understood to be contributing factors.
- Early diagnosis of cancer is critical to achieving the best outcomes. Unfortunately, patients in England tend to be diagnosed at a more advanced stage than patients in other countries. This could be due to several factors, including slower primary care referral, lack of diagnostic capacity, and declining screening coverage.
- In addition, while the integration of genomics into routine NHS care offers significant new opportunities to advance patient outcomes, Lilly is increasingly concerned with the slow implementation of England's new genomic testing model and the impact this is having on patients. We call for urgent attention on this issue and open dialogue with stakeholders, including industry, to determine what steps can be taken to preserve the highest standards of care for patients.
- Improving patient access to innovative therapies is also a critical factor in advancing cancer outcomes. England generally has lower uptake of the newest medicines when compared to international peers, a trend that extends to the latest cancer therapies.
- The pandemic has resulted in significant disruption across the whole cancer pathway and analysis suggests a reversal in outcomes that has eroded years of progress in improving survival rates. Lilly calls for sustained prioritisation of actions and significant additional investment to recover NHS services and address the backlog in screening, diagnosis, and treatment.
- As damaging as the pandemic has been for cancer care, the NHS response to COVID-19 has also enabled unprecedented levels of cooperation across the system and a bold willingness to introduce new approaches to care that may bring lasting benefit if integrated into routine practice. The

expanded use of telemedicine is one such example. Focus should now be given to validating these approaches and developing best practice for their routine implementation in the clinic.

Why do cancer outcomes in England – in particular survival – still lag behind comparable countries internationally?

Progress has been made, but disappointingly outcomes in England continue to lag international peers

1. Analysis of international comparisons in cancer outcomes shows continued improvements in cancer care across high-income nations globally.ⁱ Since the publication of the first cancer plan in 2000, England has experienced similar improvements in cancer outcomes: one year survival for all cancers improved by more than 10% between 2003 and 2018, while there were similar gains in five-year survival (9%) in the period between 2003 and 2014. Overall, survival rates have doubled in the last 40 years. The data consistently shows that more people than ever are surviving their disease, with the number of people alive in the UK having had a cancer diagnosis predicted to surpass 4 million by the end of the decade.ⁱⁱ
2. Nevertheless, despite these advances, it remains disappointing that England continues to lag international peers when it comes to outcomes. For example:
 - 2.1. Breast cancer is the most prevalent cancer in women in the UK, with one woman diagnosed every 10 minutes. While UK wide improvements have been made in five-year survival in recent years, reaching 85.6% between 2002 and 2014, this is markedly lower than the US (90.2%), Australia (89.4%) and Japan (89.4%) for the same period.ⁱⁱⁱ
 - 2.2. Lung cancer is the UK's biggest cancer killer, with more people dying of lung cancer every year in the UK than die from breast, bowel, bladder and cervical cancer combined. In the UK, 5-year lung cancer survival stands at 17.4% compared to 24.8% in Canada and 24.6% in Australia.ⁱⁱ
 - 2.3. Colon cancer is the third most commonly diagnosed cancer worldwide. The UK has the poorest colon cancer outcomes amongst OECD countries, with five-year survival at 60% between 2010 to 2014 compared to 70% in Australia and 67.9% in Belgium over the same period.ⁱⁱⁱ

Later diagnosis is a key factor behind differential rates of survival

3. The factors that lie behind differential rates in survival between England and other high-income countries are complex. However, there is consensus that later diagnosis is a key contributing factor.^{iv} Patients diagnosed at an early stage are significantly more likely to survive cancer as their disease is more localised and easier to treat. Survival figures underline how important early detection is. For example, patients diagnosed with breast cancer at stage 1 have an almost 100% chance of surviving for one year after diagnosis compared to just 66% for those diagnosed at stage 4. In lung cancer, where small delays in diagnosis and treatment can have a significant impact on prognosis, five-year survival stands at around 40% if diagnosed at the earliest stage of disease (stage 1) compared to less than 10% if diagnosed at the latest stage (stage 4). The data is even more pronounced for colorectal cancer, with more than 90% five-year survival if diagnosed at stage 1 compared to less than 10% at stage 4.^v
4. Late-stage diagnosis is thought to be a key factor in differential survival rates across high-income countries. For example, analysis has also shown correlation between five-year survival in breast cancer and differences in stage of diagnosis across different European countries.^{vi} For lung cancer in particular, England is known to have a higher proportion of patients diagnosed with later stage disease than when

compared to international peers. For example, 20.3% of non-small cell lung cancer is diagnosed at stage 1 or 2 in England compared to 25% in Canada.^{vii} In England, a fifth of all cancers are diagnosed via an emergency route (for example via A&E or an emergency GP referral) which often means the cancer is picked up later and has already progressed to the latter stages of disease.^{viii}

5. There are several potential reasons for later stage diagnosis in England, including:

5.1. **Assessment in primary care:** A patients' first point of contact with the NHS will typically be in primary care. However, 15% of patients report seeing their GP three or four times before being referred for cancer tests. Some patients (9%) even report five or more visits before a referral is made.^{ix} It is important to recognise that assessment of possible cancer symptoms, many of which can just as easily relate to benign conditions, is difficult and complex. Nevertheless, international data shows that GPs in England report lower readiness to refer patients with potential cancer symptoms to specialist care when compared to peers in countries with better cancer survival rates such as Australia, Canada, Sweden and Norway, suggesting there remains further opportunity in England to better support GPs in providing swift referral for suspected cancer cases.^x

5.2. **Lack of capacity in diagnostic services:** Patient assessment can also be slowed by inadequate access to and capacity in diagnostic services. The UK has the third lowest number of CT scanners per million population in the OECD at 9 per million inhabitants. This compares to 40 per million inhabitants in Denmark, 26.6 per million inhabitants in the US, and 18.8 per million inhabitants in Germany. Similarly, the UK has around 18.8 MRI machines per million population compared to 55.2 in Japan, 34.6 in Germany, and 34.6 in the US.^{xi}

5.3. **Workforce shortages in radiology:** A confounding factor in the lack of capacity in diagnostic services is an acute workforce shortage in radiology. The Royal College of Radiologists reports that in England, the consultant radiologist shortage is 35% short staffed and needs at least another 1,613 full time consultants to keep up with safe staffing quotas.^{xii} In its latest workforce census (conducted before COVID-19), the College reports that approximately three quarters of trusts in England do not feel there are enough consultant radiologists to meet demand and deliver safe and effective patient care.

5.4. **A gradual decline in screening coverage:** Cancer screening can help detect the early signs of disease even in patients who are not yet experiencing noticeable symptoms and national screening programmes for breast, cervical, and bowel cancer are predicted to save around 9000 lives each year. Despite this, breast screening coverage in England has been slowly declining across the whole of the UK from a peak of 76.4% of the eligible population in 2012/13 to 74.2% in 2019/20.^{xiii}

More needs to be done to speed referral and diagnosis

6. Early diagnosis is crucial to securing the best cancer outcomes and even the smallest delay can have a big impact on a patient. Furthermore, it is worth noting that swift diagnosis and early intervention often means treatment is shorter and less complex, with reduced side-effects for the patient, meaning early diagnosis not only leads to better outcomes but also better treatment experience for the patient with less time spent in hospital. Intervention in the earlier stages of disease is also less costly and puts reduced demand on healthcare resources.

7. Lilly welcomes the ambition set out in the Long-Term Plan to increase the proportion of cancers diagnosed at stages 1 and 2 from half now to three-quarters by 2028. However, this will require a determined and multi-layered effort to speed referral and diagnosis and ensure patients are receiving the best treatment. Lilly recommends focus in the following areas:
 - 7.1. Primary care is often the first port of call for patients in the health system and GPs play an important “gatekeeper” role to more specialist NHS services. However, primary care professionals need enhanced support to facilitate faster referral to diagnostic services and specialist care for suspected cancer cases.
 - 7.2. There is a critical lack of capacity in diagnostic services coupled with a workforce shortage in radiology that requires significant investment to resolve if cancer outcomes are to be improved.
 - 7.3. Patient screening programmes are an important means of identifying cancer patients early, sometimes before discernible symptoms appear. However, screening coverage has been trending downward for the last decade. Every effort should be made to increase participation in these programmes, including through national public awareness campaigns.

The NHS must also position itself to make best use of transformative technologies, including genomics

8. In addition to conventional forms of diagnostic technology, the NHS must be positioned to make best use of emerging areas of science that can bring significant benefit to patient care, including genomics. Genomics has profoundly changed how we understand and treat different cancers and is critical in providing clinicians with a clearer picture of which targeted medicines will be most effective. Genomics is crucial to paving the way for new personalised treatments which target specific mutations or genetic alterations identified via genomic analysis. These therapies open new avenues for treatment of cancer patients that can help save and prolong lives and reduce long-term healthcare costs for the NHS. Genomic approaches also provide insight that can help avoid use of treatments that might otherwise be less effective for a particular patient or have unwanted and harmful side effects.
9. The UK has long been recognised as a leader in genomics, a status that has been further underlined during the COVID-19 pandemic. However, Lilly is increasingly concerned with the slow implementation of England’s new genomic testing model for patients in the NHS. This new model seeks to centralise laboratory provision for genomic testing via seven regional Genomic Laboratory Hubs (GLHs), however transition has been challenging with significant operational difficulties and the Hubs are currently not operating as required with slow turnaround times and high failure rates on analysis.
10. Lilly fully supports the Government’s ambitions to establish a genomic medicine service and to implement genomic analysis into routine NHS care. Genomic approaches are critical to bringing the best science to bear on cancer, offering new treatment options for cancer patients in areas of high unmet clinical need. However, we believe problems associated the implementation of genomic testing via the GLHs, which are leading to significant delays in patients receiving their test results, is rapidly becoming a serious situation requiring urgent attention in order to safeguard patient care. Swift diagnosis is crucial to delivering the highest quality care to patients with a time sensitive condition like cancer and we would encourage the committee to bring scrutiny on this issue. Lilly believes the current approach in England

will not resolve these challenges for some time and we would support open dialogue with the Department of Health and Social Care to discuss how we can overcome immediate challenges in the GLH model and work together towards the longer-term sustainability of the centralisation of genomic testing in England.

Improving patient access to innovative therapies is a critical factor

11. Patient access to effective treatment is another factor contributing to differential cancer survival. New cancer medicines have contributed to significant improvements in cancer outcomes in recent decades, with novel therapies increasingly targeted to discrete patient populations with increased effectiveness and improved side effect profile. Nevertheless, uptake of NICE approved medicines in the UK is generally lower in the years after launch than in other countries. For example, the latest OLS competitive indicators show that median per-capita uptake of NICE-approved medicines in the first year of launch is just over half (56%) of what it is in a basket of international comparators.^{xiv}
12. This trend extends into cancer medicines. The UK generally shows slower uptake of new cancer medicines compared to international peers, with research showing that across a sample of six commonly used cancer medicines UK patients on average have lower levels of access than patients in France, Germany, Italy, and Spain. The data also shows that for lung cancer in particular, despite the fact the UK generally provides the fastest access to new treatments, the level of subsequent uptake is amongst the lowest in the UK.^{xv}
13. The recently published Life Sciences Vision commits to making the NHS one of the best places in the world to launch and spread new innovation and acknowledges the critical role of NHS England as a partner in delivering innovative treatments and technologies to patients. Delivering on the ambition of this vision will be key to improving health outcomes across the NHS, including in cancer. Likewise, the NHS must have in place the necessary structures and capabilities to fully utilise the promise of new medical innovation - in particular the necessary diagnostic services, including genomics, that are so critical in informing the best approach to patient care.

How will Covid-19 affect efforts to catch up to the best cancer outcomes internationally?

14. It is now increasingly clear that alongside the impact of the pandemic on patients with COVID-19, disruption in NHS services has also had a devastating consequence for non-COVID patients, and particular those with cancer. Lilly is acutely concerned with the impact of COVID-19 on cancer patients, with early modelling suggesting the pandemic has led to a significant reversal in cancer outcomes in the UK. Analysis by Carnal Farrar, for example, finds five-year survival for lung cancer stands to drop from 16.2% in 2017 to 14.3% in 2020 while in breast cancer the figure is likely to decline further from 85% in 2017 to 81.2%. These figures suggest a reversal in outcomes that puts UK gains in cancer outcomes back by 2 and 8 years for lung and breast cancer respectively.^{xvi}
15. The pandemic has caused significant disruption across the whole cancer pathway:
 - 15.1. **Screening:** Although there was no official suspension of screening programmes in England invitations from screening hubs were not sent out to patients and the service was effectively

stopped during the pandemic. For every week that these programmes were paused, approximately 210,000 people were not screened.^{xvii} Up to a million women are thought to have missed out on breast cancer screening alone.^{xviii}

15.2. Referrals: Referrals from primary care were significantly disrupted during the pandemic. Urgent two-week wait referrals were particularly impacted, with a drop as high as 76% at some sites^{xix} and around 40% reduction for England as a whole.^{xx}

15.3. Diagnosis: The volume of CT scans performed in April, May, and June 2020 was 28% lower when compared to the same period the previous year while MRI scans were down 53%.^{xxi} COVID-19 has further exacerbated the UK's pre-existing weakness in diagnostic capacity and lack of capacity is likely to hinder attempts to work through the significant cancer backlog.

15.4. Treatment: Lilly has been encouraged by efforts to sustain safe delivery of care for at risk, immunocompromised, or otherwise vulnerable cancer patients. The utilisation of "covid free" hubs such as those at the Royal Marsden and the Christie have helped maintain capacity to deliver routine treatment through the pandemic. Likewise, adaptations made to the cancer care pathway that have allowed for treatment in outpatient or community settings, for example by enabling preferential prescribing of oral formulations rather than those taken via IV, have also been helpful. Nevertheless, treatment has been significantly affected, particularly surgical procedures, and disruption is likely to persist for some time due to a combination of a significant backlog in patients coupled with the follow through of delayed patient presentation.

15.5. Clinical trials: Another area impacted has been clinical trials. Disruption in clinical research not only impedes the development of innovation but also denies patients access to new and potentially breakthrough treatment options. Lilly's own trials, including those in oncology, were severely impacted during the pandemic, with challenges both in patient recruitment and ongoing monitoring that were considerably more pronounced in the UK than other countries in Europe.

16. Taken together, pandemic disruption has (and is likely to continue to have for some time) serious repercussions for cancer care in England. Concerningly, delays across the cancer pathway are already starting to show signs of translating into reduced survival and therefore higher mortality in cancer patients. Lilly calls for urgent and sustained focus on recovering performance in NHS services and addressing the backlog in screening, diagnosis, and treatment so that patients are not waiting unnecessarily for their care. In particular, we would like to see:

16.1. The upcoming Spending Review should recognise the significant level of additional funding and investment that is still required to overcome COVID challenges and get routine services back on track.

16.2. In particular, the NHS needs to tackle workforce and capacity challenges in diagnostics and invest in better equipment and infrastructure to accelerate recovery of the diagnostic pathways. For example, the Report of the Independent Review of Diagnostic Services for NHS England recently concluded that the number of CT scanners in the NHS needs to double to keep up with demand.^{xxii}

- 16.3. Cancer screening services should be supported to target patients who may have missed invitations through lockdown. We would also support the development of a national public awareness campaign to arrest the downward trend in screening coverage and encourage more uptake in screening programmes.
17. As damaging as the pandemic has been for cancer care, the NHS response to COVID-19 has also seen unprecedented levels of cooperation across the system and a bold willingness to introduce innovative approaches that could bring lasting benefit if integrated into routine practice. For example, use of virtual consultations expand rapidly during the pandemic as a means of seeing patients remotely during lockdown. Remote approaches can be a safe, convenient, and efficient way for patients to speak to clinicians and routine adoption of this approach post-pandemic may have an important role to play in improving capacity in strained clinics. However, virtual consultations do have their limitations, and consideration must be given as to the best approach for patients. It is not, for example, possible to carry out any additional tests or physical examinations virtually, while older patients can be unfamiliar with new IT technology. Moving forward, development of best practice will be essential to making most of the significant opportunity offered by the routine integration of remote approaches in the NHS.

ⁱ Arnold M. et al (2019). [Progress in cancer survival, mortality, and incidence in seven high-income countries 1995-2014](#). The Lancet.

ⁱⁱ Maddams J. et al (2012). [Projections of cancer prevalence in the United Kingdom, 2010-2040](#). Br J Cancer.

ⁱⁱⁱ OECD (2021). [Health Care Quality Indicators, Cancer Care](#).

^{iv} CRUK (2018). [Cancer in the UK: State of the nation](#).

^v ONS (2019). [Cancer Survival by age at diagnosis for England](#).

^{vi} <https://onlinelibrary.wiley.com/doi/10.1002/ijc.11226>

^{vii} International Cancer Benchmarking Partnership (2018). [Overview of Findings](#).

^{viii} National Cancer Registration and Analysis Service (2015). Routes to diagnosis of cancer by stage, 2012-2013. London: PHE; 2015. Data for England.

^{ix} Quality Health: National Cancer Patient Experience Survey, 2016. London: NHS England; 2017

^x Rose, P et al. (2014). [Explaining variation in cancer survival between 11 jurisdictions in the International Cancer Benchmarking Partnership: a primary care vignette survey](#).

^{xi} OECD (2021). Health Care Quality Indicators.

^{xii} Royal College of Radiologists (2020). [Clinical radiology England workforce census 2019](#).

^{xiii} NHS Digital (2021). [Breast Screening Programme, England 2019-2020](#)

^{xiv} OLS (2021). Life Science Competitiveness Indicators 2021.

^{xv} IHE (2017). [Comparator report on patient access to cancer medicines in Europe revisited – a UK perspective](#).

^{xvi} Carnal Farrar (2020). [Disruption and recovery of cancer from COVID-19](#).

^{xvii} CRUK (2020). [Over 2 million people waiting for cancer screening, tests and treatments](#).

^{xviii} Breast Cancer Now (2020). [Almost one million women in UK miss vital breast screening due to COVID-19](#).

^{xix} Lai et al. (2020). [Estimating excess mortality in people with cancer and multimorbidity in the COVID-19 emergency](#)

^{xx} NHS England (2020). [Cancer waiting times](#).

^{xxi} NHS England (2021). [Monthly diagnostic data 2020-2021](#).

^{xxii} NHS England (2020). [Diagnostics: Recovery and Renewal](#).