Incisive Health
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Getting upstream

Creating an early intervention service for cancer

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Contents

Acknowledgements

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During the course of this project, I have been fortunate to speak with a wide range of experts, including national and local health service leaders, innovators, those working in central government departments, royal colleges, think tanks, charities and professionals working in the NHS and independent sector. They were all generous with their time and ideas. To enable them to speak candidly, their input has been anonymised and I will not name them here. They know who they are.

Finally, I am grateful to colleagues at Incisive Health for support in researching this paper and advice on its content. In particular, it would not have been possible without the work of Georgina Gledhill and Ed McIntosh. The opinions, recommendations and any errors in this paper are mine alone.

Foreword

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Head of Oncology, AstraZeneca UK

Early diagnosis saves lives. It's a slogan we've all heard. And it has been the north star of England's cancer programme for the past five years: to diagnose 75% of all cancers at stage 1 or 2 by 2028.[1] It's also a fundamental component of AstraZeneca's strategy for transforming cancer care so that we can, one day, eliminate cancer as a cause of death.

Today, six years (and one global pandemic) on from the NHS Long Term Plan, over 40% of patients are still diagnosed at a late stage or with unstaged cancer in England.[2] With the UK lagging behind comparable countries for cancer outcomes, waiting times and access to treatments,[3] it's important to take advantage of the opportunities presented through earlier diagnosis for cancers – for the benefit of the patient and wider health system.

If the NHS is serious about transforming cancer outcomes in the UK, it's time to reinvigorate the early diagnosis debate. That's why we commissioned this report. And it couldn't come at a more critical time.

This report takes a fresh look at how the healthcare system can be hardwired to turn rhetoric into reality when it comes to diagnosing cancers earlier. It also recognises the importance of broadening out the discussion to earlier intervention, taking a full pathway approach to preventing cancer, as well as diagnosing and treating it sooner. Earlier diagnosis, faster access to treatment, and timely follow up.

This approach is critical, as we're increasingly seeing capacity constraints in the NHS impacting patient care.[4] Too often, it is seen as a trade-off: we can either focus on diagnosing cancers earlier; or we can focus on treating patients. We have to be able to do both, and they are not mutually exclusive. If we can drive a stage shift in diagnosis, we can help to relieve the capacity burden on the system caused by late stage, complex care. But we have to be realistic that this will take upfront investment, in both diagnostics and early-stage treatment, and it will take perseverance over time.

This is a blueprint for a step change in cancer care that will enable bold reform, utilising existing technologies, whilst putting in place firm foundations for the rapid adoption of innovation that's coming through from academia, research and industry collaborations.

It sets out examples of good practice that must be replicated across the NHS, as well as the national policy levers required to embed leadership, accountability and – ultimately – delivery. We hope this report will help to inform the development of both the new 10 Year Health Plan and England's new national cancer plan.

AstraZeneca remains committed to working with our partners across industry, government and the NHS to deliver a shared vision for transforming cancer care in the UK.

Summary

Early intervention – meaning proactively seeking to prevent, diagnose and treat ill-health at an early stage – has the potential to significantly improve outcomes. Action on prevention, diagnosis and treatment needs to be linked: the effectiveness on one will be hindered without action on all. The focus of this report is cancer, but the concept is also beneficial to many other conditions, such as cardiovascular disease, lung disease or mental illness.

The benefits of early intervention in cancer include 'curing' more people, extending and improving lives and preventing cancer from developing. It can also reduce the costs associated with treating people with very advanced cancers, release hospital capacity and enable more people to continue working. Early intervention can be good news for patients, health services and society.

The Government's desired 'three shifts' in health – from analogue to digital, from hospital to community and from sickness to prevention – will all be critical to making early intervention a reality.

Although successive governments have endorsed the potential of early intervention and expressed a desire to prioritise it, the reality of healthcare decision-making has been somewhat different.

There has been progress on early intervention in cancer, including successful action to reduce smoking, the introduction of new screening programmes, the launch of early diagnosis initiatives and action to treat cancer earlier and more effectively. However, significant opportunities have also been missed:

- Prevention measures, such as restrictions on advertising of unhealthy food, have only been introduced after delays
- Funding cuts have damaged public health services, reducing the effectiveness of efforts to tackle common causes of cancer, including obesity, smoking and alcohol
- The impact of screening has been limited by low participation rates, meaning that opportunities are missed to diagnose cancer before symptoms are apparent
- Progress on early diagnosis of symptomatic cancer has been slower than hoped for, in part due to the disruption of COVID-19 but also because of challenges in investigating, referring and diagnosing the people at highest risk and difficulties in encouraging them to seek help
- Efforts to treat people promptly and effectively have been hindered by long waiting times and capacity bottlenecks

Experts who contributed to the development of this paper identified multiple barriers to moving towards an early intervention service, including the:

- Difficult politics of prevention slowing policy change
- Culture of 'protect the NHS' hindering proactive intervention
- Dominance of the acute sector inhibiting the development of community services
- Crisis in general practice crowding out innovation in primary care
- Perceived absence of effective service models undermining business cases
- Challenges of investing in new services at a time when hospitals are struggling to meet existing health need

Moving forward, an early intervention service for cancer should have four key characteristics:

- **Urgent:** with a focus on tackling delays in prevention, diagnosis and treatment
- **Proactive:** with a focus on creating and taking opportunities to prevent and diagnose cancer
- **Accessible:** with a focus on removing barriers to patients seeking and receiving support
- **Informed:** with a focus on using evidence to drive change and ensuring that data is used in a timely way to inform policy and clinical practice

Delivering a step-change in cancer outcomes requires that acting to prevent, diagnose and treat cancer early be seen as being more important than the need to limit pressures on health services. Policy changes can help deliver this shift in culture.

Recommendations

As the Government develops its plans for the NHS, there is an opportunity to make a statement of intent on early intervention. Cancer could prove an instructive test case for wider change. This paper makes the following recommendations for national policy change, which are intended to make a constructive contribution to discussions on how to translate the intent on early intervention into reality.

Ensure political leadership on early intervention

Change will not happen without political leadership:

1. As part of the forthcoming NHS 10 Year Health Plan, the Government should make clear that early intervention is a key pillar of its vision for health and care services.

2. To ensure accountability for progress, the Government should set a small number of national standards on early intervention, which should be included in national and Integrated Care Board-level accountability and as part of cancer performance league tables (see recommendations 11 and 12).

3. Creating the space to focus on early intervention will require action to tackle downstream backlogs. The National Cancer Plan should commit to a cancer efficiency programme with the intention of reforming pathways and releasing capacity, removing unnecessary steps in pathways. The actions set out in *Capacity to deliver* are a useful starting point for this process.

Renewed push on prevention

Politicians need to be emboldened to take more rapid and radical action on prevention:

4. Where possible, action on prevention should be taken on a cross-party basis. At the beginning of each Parliament, the Health and Social Care Committee, informed by evidence from the Chief Medical Officer, should publish recommendations on further action to prevent ill-health. These recommendations should then be subject to a free vote in parliament, with the Government tasked with taking forward any measures that are approved.

5. The NHS 10 Year Health Plan and the National Cancer Plan should set out how the NHS will support people in leading healthier lives, with a focus on enhancing smoking cessation, obesity management and alcohol services.

Enable investment in early intervention

The cycle of diverting funding to address problems in downstream services needs to be broken:

6. As a first step, the Government should collect and publish data on expenditure on early intervention services, including prevention, screening and early diagnosis. A group of experts should be tasked with developing a definition for what activity should be in scope.

7. The Office for Budget Responsibility should examine cancer trends in its next report on fiscal risks and sustainability, with a focus on the economic implications of early intervention.

8. The Government should consider the case for establishing an Early Intervention Investment Standard, setting an objective to increase the proportion of NHS investment devoted to upstream services, building on the experience of the Mental Health Investment Standard.

9 To encourage the development of services outside of hospital, location-neutral tariffs should be established for early intervention services. Organisations from across the NHS, not-for-profit and independent sectors should be able to provide these services, providing they are delivered to the standards required by commissioners.

10 Given the pressures on public finances, the Government should consider creating a levy on tobacco companies. There is a strong case for making the polluter pay for the costs of managing tobacco addiction.

Focus on reducing late diagnosis

A key element of early intervention will be reducing late diagnosis:

11 The Government should introduce a new measure of progress on reducing late diagnosis, focusing on delivering an absolute reduction in the numbers of people diagnosed with cancer that has already spread (referred to as Stage 3 or 4 for many cancers). This should replace the existing target that focuses on increasing the proportion of people diagnosed with early-stage disease.

12 A national objective should be set to increase the proportion of cancers diagnosed through screening by 2030. The National Screening Committee should be asked to provide advice on the level of increase that should be achievable with adjustments made to reflect as and when new programmes are recommended and implemented.

13 A new national initiative should be established to evaluate the potential for case finding amongst people deemed to be at increased risk of cancers such as prostate, pancreatic, and oesophageal, as well as exploring the potential to expand lung health checks beyond the scope of the new screening programme.

Technology can enable early intervention

Technology creates opportunities to enable more convenient access, free up capacity and support clinicians:

14 To free up GP capacity to enable a focus on supporting people living with multiple conditions, alternative diagnostic pathways (for example non-specific symptoms clinics or teledermatology) should be made available across all practices. Direct patient access to diagnostics should also be introduced, enabling patients with symptoms to be triaged online and, if appropriate, to book appointments directly.

15 Real time decision support platforms should be made available to all GPs, helping them identify people with potential cancer and refer appropriately. Funding for such platforms should be linked to reductions in missed opportunities to diagnose cancer and improvements in the use of cancer referrals.

16 Capacity-releasing technology, such as AI in diagnostics, should be rapidly adopted to expedite waiting lists, free-up clinical time and improve accuracy, with NICE providing advice on the interventions to prioritise. Tariffs should be adjusted to enable investment and to ensure that, moving forward, inefficient models are not maintained.

These recommendations focus on high-level policy change and the actions that politicians can take to lead this process. They will need to be accompanied by action at a regional and local level to translate policy into practice, learning from and spreading the many encouraging examples of change that occur in the NHS and elsewhere.

Introduction

People who are healthy tend to be happier, more productive and more fulfilled. They also cost the NHS significantly less. It is therefore unsurprising that policymakers across the political spectrum have long held the view that the NHS should focus its efforts on supporting people in staying well or intervening early to identify and treat ill-health before it becomes serious.

The new Government has reiterated the importance of early intervention, placing the concept at the heart of its vision for a reformed NHS:[5]

> *"When I look at leading health systems across the world, the fundamental problem with the NHS becomes obvious. We have an NHS that gets to people too late. A hospital-based system geared towards late diagnosis and treatment, delivering poorer outcomes at greater cost... A sickness service, not a health service."*
>
> Rt Hon Wes Streeting MP

However, history shows that translating this vision into reality will be easier said than done. Sir Derek Wanless's reports from over 20 years ago spoke of a 'fully engaged' scenario, with informed patients taking greater responsibility for staying well and a technologically-enabled NHS intervening early to support them.[6] The Blair Government's decision to dramatically increase spending on the NHS was based on this scenario. That this vision has not been delivered in the ensuing decades explains some of the financial pressures faced by the NHS.

This paper explores some of the blocks that exist to moving care upstream in relation to cancer and discusses how they may be overcome. It is hoped that the themes explored and recommendations made will provide a constructive contribution as policymakers consider future plans for the NHS.

The 'three shifts' and early intervention

The Secretary of State for Health and Social Care has stated that he wishes to see three big shifts in the focus of healthcare in England:[7]

- From analogue to digital
- From hospital to community
- From sickness to prevention

These shifts align well with the concept of early intervention and indeed will be critical to making it a reality.

Early intervention and cancer

Cancer provides an instructive test case for the ability of the NHS to refocus on early intervention. The impact of cancer is devastating and growing:

- One in two people will get cancer in their lifetime and the number of diagnoses in the UK each year is set to increase by over 80,000 over the next 15 years[8]
- Cancer is the leading cause of mortality in England and is set to cause one in four (27%) premature deaths (before the age of 75) between 2023 and 2050[9]
- The NHS spends an estimated £14.4 billion on cancer each year, with costs set to increase by 52% per capita by 2050[9]

Set against this, there are opportunities to make significant progress:

- Outcomes in England are poorer than in comparable countries, suggesting there are opportunities to emulate good practice[3]
- We know how to prevent some cancers through lifestyle interventions, creating opportunities to reduce the number of people diagnosed with cancer in the first place
- Advances in how we diagnose and treat cancer have transformed the outlook for many patients, meaning the rapid and equitable adoption of new technologies and techniques could further improve survival

Early intervention in cancer has significant potential to improve outcomes. The experts who contributed their ideas to this paper were unanimous in their view that early intervention can create significant benefits for patients, including:

- Improved survival and reduced mortality – earlier diagnosis and treatment generally increases the potential for a person to be 'cured' of cancer or for their disease to be turned into a treatable long-term condition
- More options – early-stage treatments tend to be less invasive and intensive, with a greater range of choices for patients and clinicians
- Better experience – late diagnosis and/or treatment, particularly when opportunities for earlier intervention have been missed, is damaging to patients' experience of treatment and care

There are also significant potential benefits to health services and society, including:

- Reduced costs associated with care for people with very advanced cancers, where the clinical benefit is likely to be smaller. For example, previous Incisive Health research has shown that the cost of treatment for early-stage cancer is significantly lower than for cancer that has already spread[10]
- Released hospital capacity. For example, treatment for earlier stage cancer can be a one-off intervention or be delivered over a shorter period, whereas caring for people with more advanced disease requires ongoing treatment and can involve lengthy and unplanned hospital stays[11]
- More people continuing in work, leading active and fulfilling lives and contributing to economic prosperity[9]

The question, therefore, is not whether early intervention in cancer is a worthwhile endeavour, but if and how it can be delivered. This is the topic that this paper seeks to address.

As the Government develops its new plan for the NHS, with a dedicated cancer plan set to follow,[12] now is the time to consider how decisive action can be taken to shift cancer services upstream, creating a genuine early intervention service that delivers better outcomes for people and better value for the taxpayer.

Methodology

The paper has been developed using a four-stage process:

1 Desk research
We reviewed evidence and commentary on the case for early intervention, the challenges that occur and potential policy interventions to deliver it

2 Semi-structured interviews
We spoke with experts holding different perspectives on early intervention, from the field of cancer and beyond. This included national and local health service leaders, innovators, those working in central government departments, royal colleges, think tanks, charities and professionals working in the NHS and independent sector

3 Identification of examples
We identified examples of early intervention healthcare models with a view to considering their applicability to cancer care in England, as well as their replicability in the NHS

4 Play back
We briefed experts on findings and emerging recommendations, encouraging further comment, reflection and refinement

In order to enable experts to speak candidly and offer their considered personal perspective rather than repeating an established organisational position, all feedback has been anonymised and is referred to as personal communication.

A note on NHS England

Most of the research for this paper was conducted before the Government announced its intention to abolish NHS England, bringing together its functions with the Department of Health and Social Care. However, the direction of travel – closer working with greater direct political involvement – was already clear. The opportunities created by early intervention and the challenges that exist to translating this vision into reality exist irrespective of the national leadership structure for health and care. The insights and recommendations presented in this paper will be as relevant for a post-NHS England world as they are today.

Has cancer delivery moved upstream?

Early intervention in cancer is possible in a number of ways at different stages:

Prevention

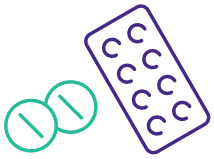
Measures can be taken to reduce general risk factors for cancer, such as access to tobacco, or by identifying people with specific risks and helping them to manage their health accordingly, such as women with the BRCA (breast cancer) gene

Screening

It is possible to identify people with some cancers before they have symptoms[13]

Early diagnosis of people with symptoms

Once symptoms occur, people can be rapidly referred for diagnosis and specialist attention



Early treatment before a cancer has spread

Once a person is diagnosed with cancer, prompt and effective treatment maximises their chances of a positive long-term outcome[14]

Advances in science mean it is possible to prevent, diagnose and treat cancer at an early stage

- **Prevention:** HPV vaccination reduces the risk of recipients developing cervical cancer, as well as other HPV-related cancers, such as mouth, throat and anal cancers[15]
- **Screening:** new programmes for bowel cancer have resulted in more people being diagnosed with early-stage disease[16]
- **Diagnosis:** artificial intelligence is supporting clinicians in more accurately identifying potential symptoms and then in reading imaging to diagnose cancers, such as malignant melanoma[17]
- **Treatment:** advances in surgery, radiotherapy and cancer medicines have improved the efficacy of treatments for early-stage cancers, reducing the risk of recurrence and minimising side effects[18]

In each of these areas, some progress has been made but opportunities have also been missed. The progress that has occurred is a combination of policy action, delivery by NHS staff and advances in scientific understanding that enable us to intervene earlier and more effectively than before.

Prevention

Around four in ten cancers in the UK are preventable each year.[19] There is a significant economic, as well as health, dividend to be gained from intervening to prevent cancers. There are currently 890,000 people of working age living with cancer and this is set to increase to 1,150,000 by 2030.[20] Cancer diagnosis rates are increasing fastest among people aged between 25 and 49.[21,22] For example, there is evidence that bowel cancer diagnoses in England amongst this age group are rising at a faster rate than in other European countries.[23]

Behaviours such as not smoking, keeping a healthy weight, eating a balanced diet, staying active, avoiding alcohol and enjoying the sun safely can help to reduce the risk of cancer. Actions to support behaviour change will have a benefit beyond cancer, helping to prevent other major killers, such as heart attacks, stroke, diabetes and liver disease.

Government measures to ban smoking for future generations and restrict the advertising of junk foods are therefore extremely welcome.[24,25] However, there is a need to go further and faster on other aspects of prevention, particularly in relation to alcohol and healthy eating.

There are also steps that health services have directly taken to support prevention, including the introduction of the HPV vaccination programme. Since the introduction of a national immunisation programme in 2008, it is estimated that there has been a relative reduction in cervical cancer rates of almost 90% in women, now in their twenties, who were vaccinated when they were between 12 and 13 years old.[26]

Nonetheless, the crisis in GP capacity and reductions in public health budgets have combined to mean that opportunities to support people in staying well are being missed.[27] Cuts have been made to a range of services that could help reduce the risk of cancer, including:[28,29]

- Smoking cessation services
- Drug and alcohol services
- Weight management services

Moving forward, it will be important that services to support changes in lifestyle are appropriately resourced. As a first step, it is welcome news that the Public Health Grant has received an above-inflation uplift in funding.[30,31]

The impact of smoking[24]

- Smoking claims around 80,000 lives a year in the UK and is responsible for one in four of all cancer deaths
- The number of cancer cases caused by smoking has increased by 17% since 2003
- The health impact of smoking costs taxpayers £3.1 billion a year
- Smokers are a third more likely to be off work sick, with £18 billion a year lost in productivity
- 75,000 GP appointments can be attributed to smoking each month

Screening

In England, formal screening programmes exist for several cancers (see box). In 2021/22 (the latest year for which annual figures are available), the NHS screened:[32]

- More than 4 million people for bowel cancer
- 2.2 million women for breast cancer
- Almost 3.5 million people for cervical abnormalities

Cancer screening programmes in England

England has well-established screening programmes for three cancers:

Cancer	Invited age range	Frequency
Bowel[33]	50-74	2 years
Breast[34]	Women* 50-71	3 years
Cervical[32]	Women* 25-49	3 years
	Women* 50-64	5 years

In addition, Lung Cancer Screening for people aged 55 to 74 who are current or former smokers is being rolled out across England.[35]

** People registered as women with their GP*

Between 2019 and 2023, almost 90,000 cancers were diagnosed through these programmes and it is estimated that they save around 10,000 lives a year through prevention and early diagnosis.[34,36] This should be celebrated. However, there is scope to save more lives through screening:

- Screening coverage (the percentage of people in a population who are eligible for screening and have had a test) in 2021/22 ranged from just 62% to 75%, depending on the screening programme[37]
- Variations exist both within and between national screening programmes and, generally, people at higher risk of the condition being screened for are less likely to participate[38]

Moving forward, there will be opportunities to improve both the reach, accessibility and impact of existing screening programmes, as well as implanting new programmes as and when they are recommended by the National Screening Committee.

Early diagnosis of people with symptoms

The vast majority of people are diagnosed with cancer following symptoms. Achieving a diagnosis before cancer has spread depends upon people being able to recognise that something is wrong and seeking help, healthcare professionals being able to identify that the symptoms could be cancer and investigate accordingly and the NHS being able to undertake rapid investigations and deliver a rapid and accurate diagnosis. It is this area of the pathway – combined with prompt and effective treatment – where the most immediate outcome gains are likely to be realised.

Efforts to enable a rapid diagnosis and prompt treatment have been a central part of cancer policy over the past quarter of a century, for example:

- Standards to reduce waiting times between referral and diagnosis were established[39]
- A goal to increase the proportion of the ten most commonly diagnosed cancers before they have spread (ie at Stage 1 or 2) to 75% was established nearly a decade ago, with a view to achieving it by 2028[40]
- Guidelines on recognition and referral for suspected cancer have been updated to reflect changes in evidence and to lower the threshold for suspicion so that more people with potential symptoms are investigated urgently[41]

Progress has been made on improving cancer detection rates in primary care. For example, between 2006 and 2019 the number of people diagnosed following an urgent referral more than doubled, whereas the number of patients diagnosed following an emergency presentation (seen for most cancers as a predictor of a poor outcome) was relatively stable.[42] However, one expert noted that a similar shift in stage of diagnosis has not been observed:[43]

> *"This was not accompanied by [much] shift in stage at diagnosis. We just seem to have diagnosed advanced cancers a bit faster."*

As with many aspects of healthcare, efforts to deliver earlier diagnosis of cancer were disrupted by the COVID-19 pandemic, with far fewer people seeking help for potential signs and symptoms of cancer and disruption to cancer pathways meaning that people waited longer for diagnosis and treatment. However, challenges with cancer pathways predated the pandemic. For example, the 62-day standard (that 85% of patients should receive a first definitive treatment withing 62-days of an urgent referral) has not been met for over a decade.[44] Although there has been some improvement in performance (a year-on-year increase of 4.6%), in the third quarter of 2024/25 three in ten patients were not treated within the 62-day standard.[45]

In recent years, efforts to diagnose cancer earlier have been supported by a series of programmes, including:

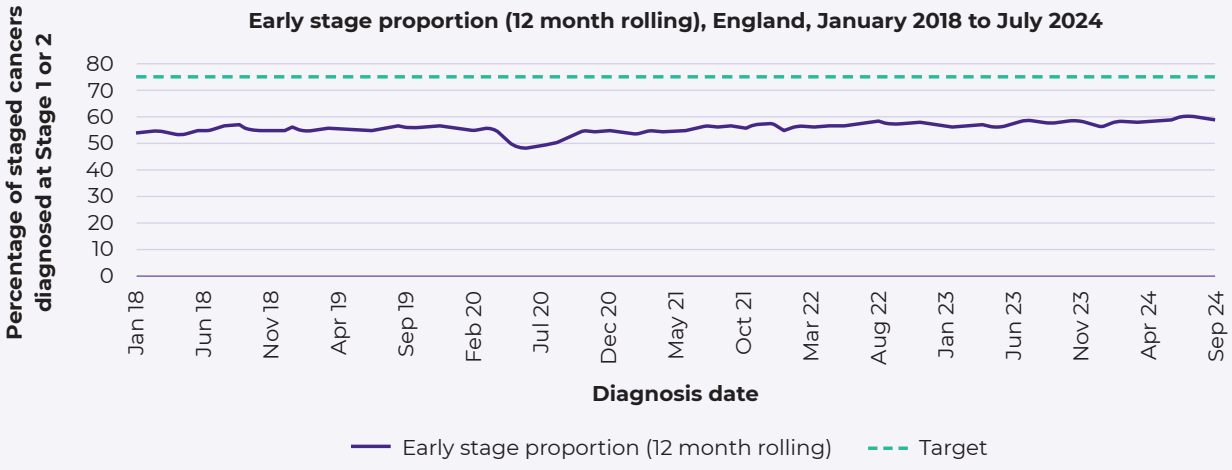
- The Lung Cancer Screening Programme (formerly known as Targeted Lung Health Checks) has detected over 6,000 lung cancers since 2019, with 75% of those at the earliest stages of the disease. As a result, early diagnosis for lung cancer has increased by 9.7% compared to 2019, with nearly half (4.6%) of this improvement in the last year. The programme has also disproportionately benefitted those with the greatest need – those in the most deprived quintile are now amongst the most likely to receive an early diagnosis[46]
- Making comprehensive use of the Faecal Immunochemical Test (FIT) for patients with symptoms of bowel cancer to cut diagnostic waiting times and make better use of available colonoscopy capacity[47]

- Piloting new approaches to liver surveillance in primary care for people at elevated risk of liver cancer, with over 45,000 fibroscans undertaken on people at high risk of significant liver disease[46]

Since the pandemic, the increase in the number of people being referred on the urgent pathway for suspected cancer has continued and accelerated, with more than 12,000 patients being seen per working day in September 2024.[48] However, the increase in urgent referral activity has only translated into a modest uplift in early diagnosis, which is now about 2% higher than it was before the pandemic and still a long way from the 75% target.[48] Even for the most common cancers, where an early diagnosis is more frequent, the proportion of patients diagnosed at Stage 1 or 2 has increased by only 2.7% on pre-pandemic levels.[49] Some experts have argued that changes in screening (predominantly the introduction of Targeted Lung Health Checks and developments in bowel screening) have driven most of this change.[43]

While it is important to recognise the positive impact that this progress will have on individuals, with an estimated 7,000 extra patients being diagnosed at an early stage each year, it nonetheless illustrates the scale of the task ahead. NHS England's 2025/26 priorities and operational planning guidance has removed the 75% target as a national priority, suggesting a diminished focus on early diagnosis.[50]

Rates of cancer early diagnosis in England remain a long way below the 2028 target[51]



Adapted from: National Disease Registration Service, Rapid Cancer Registration Data: Incidence and Treatment Dashboard

Although the NHS in England is undertaking more early diagnosis activity, the activity is becoming proportionally less effective in diagnosing cancer. Some of this deterioration will be an inevitable consequence of a more proactive approach towards investigation – with more people being referred, a lower proportion will have clear-cut symptoms. This may well be the right thing to do, in that it will lead to more cancers being diagnosed before they have spread, but it will create capacity pressures for the NHS.

Moving forward, it will be important to develop resources to help GPs identify potential signs and symptoms and refer patients more accurately, as well as focusing on targeted approaches to identifying people at higher risk of cancer, so that investigations can be prioritised.

Treatment

Earlier diagnosis will only make a difference to cancer outcomes if it is accompanied by timely and effective treatment. This is why maximum waiting standards for the time between urgent referral and treatment were established in the NHS Cancer Plan of 2000.[52] It is only possible to meet these standards if sufficient capacity is available and services are organised in such a way that patients are moved through the system swiftly and effectively. Unfortunately, the NHS continues to fail to meet key waiting time standards, resulting in delays to both diagnosis and treatment. The 31-day standard (that 96% of patients should wait no more than a month from decision to treat to beginning cancer treatment) has not been met for five years.[53]

Efforts to diagnose cancers earlier, either through screening or symptomatic pathways, will always have an impact on the need for treatment services. Earlier stage treatment will often be less expensive and occupy less health service capacity in the long run, but it still needs to be planned for and delivered. Any decisions on other aspects of early intervention will need to take account of the consequent impact on the need for treatment for early-stage cancer.

Surgery cures more cancers than any other intervention,[54] but it is increasingly being used alongside other forms of treatment that either shrink a tumour before resection or are used after it to reduce the risk of recurrence.[55] For example, clinical audit data for pancreatic cancer shows that the proportion of patients who received chemotherapy or chemo-radiotherapy prior to surgery more than doubled between 2015 and 2021 (from 5% to 11%). Increases in the proportion of patients who receive chemotherapy or chemo-radiotherapy after surgery has also increased steadily.[56]

Experts believe that there will be a growing role for precision medicines or radiotherapy in the treatment of early-stage cancer. Increasing treatment options that offer the opportunity to reduce the risk of recurrence are good news for patients. However, there will be implications:

- **Cost:** treatment costs are likely to increase in the short term, even if reducing recurrence averts longer-term expenditure on treatment for people whose cancer has recurred
- **Capacity:** increasing the proportion of patients receiving surgery, radiotherapy and cancer medicines will create capacity pressures in the short-term
- **Variation:** treatment will become increasingly complex, requiring more multidisciplinary team working and, unless there is careful planning and guidance, greater inequity[57]

There are already variations in treatment services, which cannot be explained by differences in clinical need or patient choice:[58]

- Clinical audits show geographical differences in treatment rates
- Patients from deprived communities are less likely to receive treatment with curative intent for some cancers
- There are differences in the use of biomarker tests to guide targeted treatment. While a centralised approach, via Genomic Laboratory Hubs (GLHs), has been established, there is variation in the adoption of new testing in GLHs across the country. In addition, some tests continue to be run by local labs – meaning data goes uncaptured in national data sets[59]

Moving forward, continuing to improve the effectiveness of treatments, for both early-stage cancers and those that have spread but that are still treatable, can play a significant part in improving cancer outcomes and should be considered an important component of a proactive cancer service. However, the NHS will need to plan capacity and resources carefully to ensure that it is in a position to enable patients to benefit from these improvements in an equitable and sustainable manner.

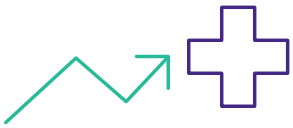
What has hindered change?

Despite the broad consensus that focusing on upstream interventions that prevent, diagnose or treat cancer early offers the biggest return in terms of improving cancer outcomes, progress has been frustratingly slow. In order to change this, we need to understand what has hindered change.

It is important to recognise that the disruption created by the COVID-19 pandemic has had a lasting effect on NHS services, changing patterns of health-seeking behaviour, disrupting pathways and diminishing the capacity of services. However, the issues highlighted by experts in developing this report all predate the pandemic.

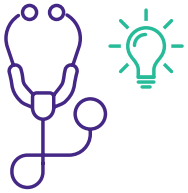
Experts identified multiple issues, which can be summarised under the following six themes:

The difficult politics of prevention slowing policy change



The culture of 'protect the NHS' hindering proactive intervention

The dominance of the acute sector inhibiting the development of community services



The crisis in general practice crowding out innovation in primary care

The perceived absence of effective service models undermining business cases

The challenges of investing in new services at a time when hospitals have been struggling

Below, each of these issues is explored in turn.

The difficult politics of prevention

The Chief Medical Officer has outlined the critical role that the state can play in preventing ill-health.[60] Some of the biggest steps forward on prevention in recent years have come as a result of state action, including the ban on smoking in public places and the Soft Drinks Industry Levy.[24,61] These measures have also proved to be popular, with the public wanting governments to take further action to prevent ill-health.[62]

Yet, despite this, and in the face of recommendations from expert advisers, successive administrations have found it challenging to take swift action, with proposals on issues such as minimum unit pricing for alcohol, promotions on healthy foods and further restrictions on smoking all enduring repeated false starts. When change has occurred, it tends to have been delayed and follows a messy political process. These difficulties are driven by both the politics and the policy:[43]

- **Politics:** almost any measure that involves a restriction on 'freedom', no matter how well supported by evidence or indeed by opinion polling, will be opposed by a minority and elicit a vocal backlash in the media. This, in turn, will drive further political debate
- **Policy:** Whitehall departments will take differing viewpoints depending on the perspectives, interests and stakeholders they represent within government. So the Department for Business and Trade (DBT) will instinctively oppose anything that may impose costs on business, and the Department for Culture, Media and Sport (DCMS) will be wary of any measures that might impact upon sports sponsorship or advertising revenues. The Department of Health and Social Care (DHSC) will then need to expend political capital (which it may need for other issues) to make progress on the prevention agenda

To overcome these issues, a clear mandate is needed from either the Prime Minister, who will need to demonstrate that the issue is a personal priority, or from Parliament, which will need to demonstrate a strong cross-party will for action. As one expert said:[43]

> *"Prevention needs to be a big political idea. Without personal leadership from the top, Whitehall factionalism will make progress very difficult. There needs to be a political override for departmentalitis."*

The culture of 'protect the NHS'

The phrase 'protect the NHS' came to prominence during the pandemic, but in truth the mindset has persisted for decades, driven by a recognition that NHS resources are scarce and services overburdened. Although the desire to not waste resources or doctors' time is a noble one, it can result in behaviours that damage health by rationing (or self-rationing) access in such a way that misses opportunities to prevent cancer or diagnose it early. As one expert said:[43]

> *"The challenge is that the system is so reluctant to over-investigate that we end up doing the opposite. Patients don't want to worry their GP, and GPs don't want to overload specialists. The result is missed opportunities to diagnose cancer, more advanced disease, greater ill-health and bigger costs."*

This analysis is supported by polling undertaken for Incisive Health. Despite the public recognising the importance of early diagnosis (88% of respondents agreed with the statement that *"A person's chances of surviving cancer are significantly improved if their cancer is diagnosed before it has spread"*), people are still reluctant to 'bother' their GP (22% of respondents said that concerns about wasting a doctor's time might stop them seeking help, even when they were concerned about a symptom that might be cancer).[63] Given that increased urgent referrals are not translating at the same rate into increased diagnoses, it is likely that not everyone at the highest risk of cancer is responding to and acting upon messaging about cancer signs and symptoms.

Some experts noted that 'gatekeeping' is in reality about keeping people out of the system rather than welcoming them in and that this has got worse in recent years, with extra barriers being established as a response to capacity problems, resulting in the effective rationing of care in counterproductive ways.[43]

The desire to protect a service from overuse, perhaps even overriding the desire to protect the people that use it, will inevitably hinder efforts to create an early intervention service. Professionals will be wary of providing it and patients will be reluctant to use it. Challenging and changing this culture will be critical if NHS cancer services are to move upstream.

The dominance of the acute sector

For the public (and therefore politicians), perceptions of the NHS are shaped by what happens in hospitals. With a few notable exceptions,* it is stories about crises in accident and emergency or long waiting times for planned operations that drive political debate. This explains why NHS targets have tended to be focused on what goes on in hospitals and why action on the acute sector has been prioritised. Whereas pressures in the acute sector have often led to more intensive performance management, pressures in primary care have led to a reduction in the number of targets and incentives in the Quality and Outcomes Framework, at least relating to cancer.[43]

Most recently, the Prime Minister has identified plans to cut elective backlogs as his top health priority and the key NHS milestone in the Plan for Change, resulting in the deprioritisation of other issues.[64]

Experts argued that, with power in the NHS resting with central bodies accountable to national decision-makers, it will be difficult to change this:[43]

> *"Integrated Care Boards were meant to create an alternative centre of gravity more responsive to local leaders. This has failed. Managers respond to their chain of command, no matter how many local leaders are on the board and what their interests are. The question then becomes can you change ministers' views on what is most important. It is difficult because they hear about electives etc from the public all the time."*

** For example, in the run-up to the 2005 election Tony Blair was challenged on GP access during a Question Time live election special*

Different parts of health service delivery will inevitably impact upon each other. For example, problems with urgent and emergency care will interfere with electives. Equally, bottlenecks in elective delivery will compromise cancer outcomes.[65] Experts made the point that running a health system is always a balancing act between the needs of those who are unwell today and those who might become unwell in the future. It is not politically or ethically possible to deprioritise the immediate needs of acutely unwell people.[43] Making progress on upstream interventions will also require progress on the downstream problems affecting the NHS.

The crisis in general practice

General practice is under immense strain. Although the number of full time equivalent (FTE) fully qualified GPs has increased slightly over the past year, there are fewer than there were a decade ago and the average number of patients per GP has increased substantially. Since 2015, the average number of patients cared for by each GP has increased by 17% – equivalent to an additional 326 patients.[66] Despite efforts to recruit more GPs, projections suggest that shortages of qualified, permanent GPs will worsen in coming years.[67]

Efforts to hire direct care staff to support GPs have increased the overall workforce, but have often added complexity and additional friction within the system. New roles have not always been accompanied by changes to pathways, meaning that additional appointments are required to get the same outcome, frustrating both GPs and patients alike.[68]

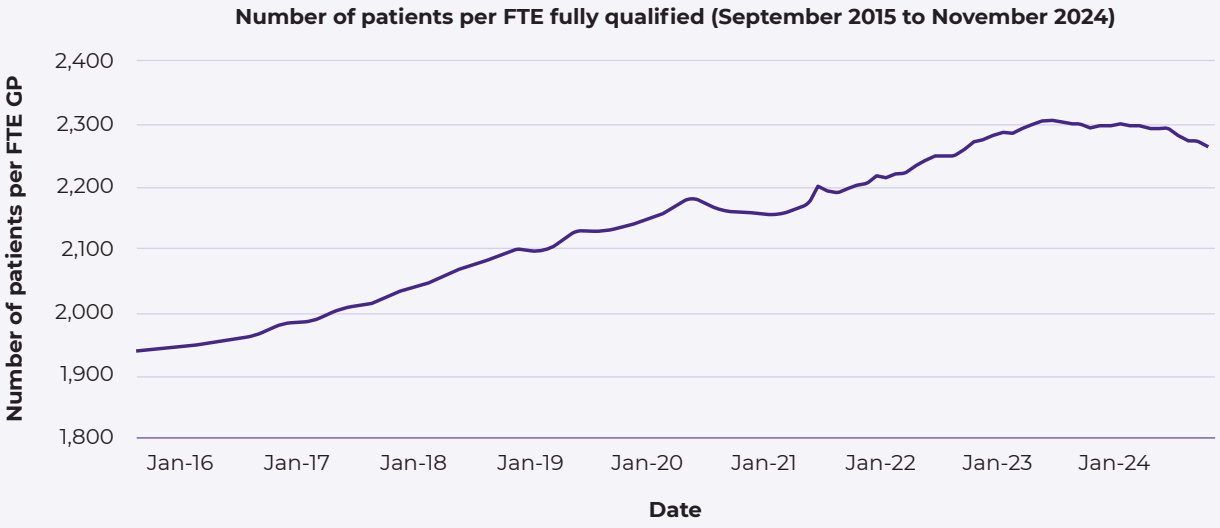
Workforce pressures are exacerbated by changes in workload:

- There is increasing complexity of health need managed in primary care. Patients are living with increasingly complex multiple health conditions, which are often compounded by socio-economic difficulties and the impact of cuts in other public services
- Volume is increasing. In the year up to and including November 2024, 365 million appointments were made in general practice, compared to 349 million the year before[69]

Some experts expressed a fear that the job of GPs is becoming impossible:[43]

> *"We are asking them [GPs] to do too much – rapid diagnosis, management of multi-morbidities, family health, complex case management – at a time when they are more stretched than ever. Something has to change."*

Rising workloads in general practice will impact on ability to deliver proactive cancer care[66]



Adapted from: Royal College of General Practitioners. Key general practice statistics and insights

Many GP facilities are outdated, with 20% of estates predating the NHS's founding in 1948.[70] It can be difficult for GPs to secure investment to update premises or to adopt digital innovations that could ease workloads, improve patient experience or enhance clinical practice.[71,72]

Patients are feeling the impact of these pressures (probably compounding public concerns about 'bothering' their doctor):[70]

- The proportion of respondents to the GP patient survey who said they had to wait a week or more for a GP appointment increased from 16% in 2021 to 33% in 2024
- Over 40% of people now say they are 'very' or 'quite' dissatisfied with local doctors or GPs, compared to less than 17% in 2010

Given this situation, it is not surprising that GPs have struggled to assume a greater role in preventing and diagnosing cancer. Changes will be required to the way in which GPs are supported and the way in which people with potential cancer are expected to enter the diagnostic pathway.

The perceived absence of effective service models

The belief in early intervention has not always been matched by the evidence to support how, when and where to deliver it. Although some aspects of proactive cancer care – such as the introduction of new screening programmes or treatments – are usually supported by high quality evidence of both clinical and cost effectiveness, this can be more challenging to generate in other dimensions of early intervention, particularly prevention or early diagnosis.

For screening, although the process of evaluation is extremely rigorous, the timelines associated with designing, delivering and evaluating screening trials; assessing their benefits, harms and costs; and then implementing them within the NHS can run into decades.

In the case of symptomatic early diagnosis, service models and interventions can be challenging to evaluate because of the interplay between technology and human decision-making:[43]

> *"The value of improvement in diagnostic accuracy has been over-indexed because all of these technologies continue to require a human to spot the risk, refer and make the diagnosis. Improving the relationship between human decision-making and technology is critical, but this is hard to do."*

Challenges in accessing and sharing data, both between NHS primary and secondary care providers and across different public services – combined with the other pressures outlined in this chapter – have hindered efforts to evaluate and spread innovative practice.

The challenges of investing in new services

All of these problems have been underpinned by a lack of funding. Despite political and health service support for the concept of early intervention, spending on hospitals has risen from 47% of the total NHS budget in 2006 to 58% in 2021, squeezing primary care and community services.[70] Austerity in other public services has exacerbated the squeeze, leaving the NHS to meet the health need created by shortfalls in other public services.[73]

That the proportion of funding should decline at the very time when policymakers have been arguing that greater focus should be placed on out of hospital services is instructive. Ultimately, the dominance of the acute sector – and the role it plays in shaping the politics of health – has been reflected in funding prioritisation:[43]

> *"Ploughing money into hospitals at the expense of community services is a feature of the system, not a bug. We don't invest enough in primary and community care but this is a political choice between current and future voters. If you are to fix this, it needs to be done early in the Parliament."*

The payment systems that were introduced in the mid-2000s and are being reinvigorated now were deliberately designed to drive up activity. However, they were focused on the acute sector, incentivising providers to increase output on 'profitable' elective procedures. No such incentive existed in primary and community care.[74]

Financial incentives proved to be effective because providers were able to retain any surplus and, at least theoretically, reinvest it in developing other services. Despite the recognition that 'upstream' interventions offer the potential to deliver greater value for money, HM Treasury has been wary about supporting the application of these freedoms to drive the expansion of early intervention services:[43]

> *"The Treasury doesn't care about value for money. It cares about money. Control of costs is everything."*

The impact of this challenge can also be felt in existing services, which have already been deemed to be cost-effective. For example, stop smoking services have fallen victim to cuts in local authority expenditure, with total local authority spending on stop smoking services and tobacco control in England falling by 45% in real terms between 2015/16 and 2023/24.[62]

Many local areas now have no specialist service open to all local people who smoke. In an effort to reverse this, additional funding has been provided up to the end of 2025/26, but significant damage has already been sustained.[75,76]

These barriers to change are significant, but not insurmountable. In order to succeed in creating an early intervention service for cancer, it will be necessary to create a compelling vision about what such a service might look like and the benefits it will bring.

What should an early intervention service for cancer look like?

Experts engaged with as part of this project identified four key characteristics for an early intervention service for cancer:

Urgent	Proactive	Accessible	Informed
Tackling delays in prevention, diagnosis and treatment	Making opportunities to prevent and diagnose cancer	Removing barriers to seeking support	Driven by evidence and the timely use of data

Below each of these principles are explored in turn.

Urgent

Missed opportunities to prevent or diagnose cancer, as well as delays in diagnosing or treating cancer, damage outcomes. Early intervention needs to be treated as a high priority by the Government, with new political action on prevention, alongside a renewed focus on addressing NHS capacity challenges in both secondary and primary care.

Injecting urgency into prevention

The size of the prevention prize

Cancer Research UK has estimated the gains that could be achieved through better prevention:[62]

- Over 18,000 cancers in England could be avoided by 2040 if smoking rates are reduced to 5% of the adult population by 2030 (as opposed to by 2039, which is the current trajectory)
- About 8,000 cancers in England could be avoided by 2040 if 10% of the people projected to be obese (BMI of 30+) remained overweight and if 10% of those projected to be overweight remained of a healthy weight
- Around 2,700 cancers in England could be avoided by 2040 if 10% of people projected to be very heavy drinkers (50+ units per week) by 2030 remained heavy drinkers (15-49 units) and if 10% of heavy drinkers remained moderate drinkers

There is more that the Government can do to make it easier for people to be healthy, including:

- Introducing a mandatory licensing system for tobacco retailers, using the powers contained in the Tobacco and Vapes Bill
- Tightening restrictions on the advertising and promotion of unhealthy foods online, on television and instore

- Encouraging food manufacturers to do more to reformulate unhealthy foods
- Empowering local communities to make the places they live healthier by implementing planning restrictions to reduce concentrations of unhealthy food outlets, investing in sport and recreation and designing further fiscal measures that incentivise the sale of healthy food and drink options
- Tightening restrictions on the marketing of alcohol to protect children and vulnerable people and ensure independently enforced high standards
- Introducing fiscal measures to deter the sale of ultra-cheap high-strength alcoholic drinks, making clear through labelling that alcohol is a carcinogen and ensuring that improving public health is recognised as an objective of licensing bodies

As set out in the previous chapter, the politics and policy of prevention is challenging, but taking action on these issues early will ultimately lead to more lives being saved. The alternative is delays, frustration and more ill-health.

Tackling delays in diagnosis and treatment

Delays in diagnosis and treatment damage health outcomes. For example, even a four-week delay in treatment is associated with an increase in mortality for all forms of cancer, and the risk continues to increase with further delays.[77]

Yet waiting times for cancer diagnosis and treatment continue to be too long. It will be important that action on elective care does not come at the cost of progress on cancer waiting times. Work is required to clear diagnostic bottlenecks and build treatment capacity as, without this, cancer outcomes will be compromised and the Government's objectives to shift the delivery of healthcare upstream undermined.

There are actions that should be taken now to tackle delays in cancer diagnosis and treatment. *Capacity to deliver: unlocking the resources required to improve cancer outcomes in England* identified measures that could ease the pressure on cancer services and be beneficial for patients (see box).[78]

Key themes from *Capacity to deliver*

There are opportunities to improve both the quality and efficiency of cancer services, releasing capacity that can be used for early intervention:

- Simplify cancer pathways by reducing the number of steps between a referral, diagnosis and treatment
- Prioritise interventions that free-up capacity, releasing staff time for other tasks
- Streamline the work of multidisciplinary teams, enabling more time to be devoted to considering complex cases
- Improve the coordination and personalisation of cancer care
- Draw on the skills and expertise of the widest range of professionals
- Make better use of the independent sector
- Prevent disruption to capacity by ringfencing cancer and elective services from acute care

Empowering primary care professionals

If capacity is to be created to tackle delays, then a key step will be to simplify cancer pathways by removing unnecessary steps. One way of achieving this is by empowering primary care professionals to directly order investigations:

- Enabling GPs to order tests prior to, in parallel with or instead of referral to a specialist, building on the plans announced in the Government's Elective Reform Plan[53]
- Supporting GPs in ordering investigations as opposed to specific tests, giving diagnostic staff greater freedom to investigate without having to refer a patient back to the GP first
- Encouraging other healthcare professionals, such as pharmacists, dentists and optometrists, to refer patients directly where cancer is suspected

It is also important that GPs are supported in making appropriate decisions about referrals and investigations. Innovative technologies can assist GPs through more streamlined pathways. For example, the benefits from the implementation of key pathway changes in skin cancer are already being felt – 41% of skin cancer referrals in the third quarter of 2024/25 used a teledermatology approach, reducing seasonal variations in performance on the Faster Diagnosis Standard.[45] Elsewhere, experts highlighted the potential for real-time decision support to not only help GPs identify more people with signs and symptoms of cancer, but also to make more effective use of diagnostics and urgent referral pathways. This has the potential to help reduce backlogs, whilst also improving outcomes.

Real-time clinical decision support[79]

C the Signs is an example of a real-time clinical decision support platform that analyses electronic health record and patient reported data to identify patients at risk of any type of cancer, determine the cancer type, and navigate to the best pathway. Evaluation of use in the NHS suggests that such platforms can improve cancer detection and support more accurate referrals, delivering earlier and faster diagnosis and making better use of NHS capacity. Where possible, such support should be an automatic part of the system, avoiding the need for a GP to have to think of cancer as a risk and turn on the decision support.

Proactive

An early intervention service would look for opportunities to prevent and diagnose cancer, rather than just waiting for people to seek help.

Helping people lead healthier lives

Although the focus of prevention policy is often on restricting access to unhealthy behaviours, there is also a role that health services can play in proactively intervening to support healthier living and to identify, and subsequently help, people manage the risks of cancer.

This means recognising that the millions of interactions that the NHS has every day could be opportunities to identify people at risk of cancer, convey cancer prevention messages and offer appropriate support:[80]

- Accessible stop smoking services, providing a combination of behavioural support and prescription medication, are vital for those people who have started smoking. Further work is also required to ensure that smokers are signposted to stop smoking support from both primary and secondary care
- NHS weight management services can play an important role in helping people who are already obese or overweight. Improvements in pharmacotherapy offer the opportunity to provide effective support to many more people
- The NHS should commit to long-term funding of proven and cost-effective early interventions and alcohol treatment services, as well as ensuring better coordination between alcohol, addiction and mental health services

It will be important that increased resourcing for such services is sustained into future years.

Making every contact count:
Smoking cessation and lung cancer screening

The UK National Screening Committee has made integrated smoking cessation service provision a key part of its recommendation on lung cancer screening. Evidence shows that offering smoking cessation support as part of a screening intervention increases its effectiveness, delivering a prevention benefit alongside earlier diagnosis.[81]

There is an opportunity to make better use of primary care data to not only learn more about cancer risk factors, but importantly to identify people at risk of cancer (and other serious health conditions) and engage them, providing support so that they can reduce their risk. The ability to interrogate primary care data at scale would enable more effective and efficient targeted case finding. Doing so will require efforts to ensure improved access to data and tools to identify people at risk.

It will also require investment in targeted health promotion to deliver the engagement. This does not need to be undertaken by clinicians, but it will be important that it is linked to local health services and that the GP has visibility over any engagement. There will also be a growing role for digital interventions, perhaps delivered through the NHS App.

Although the growth in digital health and self-help support has created new opportunities to support lifestyle changes, these should work in conjunction with – rather than instead of – NHS-funded services. It will be important to create the space in primary care workloads to enable staff to make every contact count in terms of prevention and to provide the necessary funding to enable proactive prevention services.

Experts said that, in time, it should be possible to generate personalised lifetime risk scores using machine learning, based on:

- Genetic risk (for example BRCA genes and Lynch syndrome)
- Family history
- Individual characteristics (for example breast density)
- Lifestyle and environmental factors (for example weight, tobacco use, alcohol consumption and exposure to air pollution)

These scores could then be used to target health promotion engagement, as well as enabling people to make informed decisions based on their risk.

Reducing late diagnosis

It is notable that NHS England has removed from its list of priorities the ambition that at least 75% of people should be diagnosed with early-stage cancer (referred to as Stage 1 or 2 for many cancers). This is concerning, as it suggests a diminished focus on reducing late diagnosis, at least for the coming year. However, there is scope to improve the target and the forthcoming Cancer Plan provides an opportunity to do so.

The purpose of the early diagnosis target is to increase the number of patients who are diagnosed at a stage where treatment can make a significant difference to their quantity and quality of life, or where they have greater time to make plans with their family.

This means reducing the *absolute* number of people who are diagnosed with cancer that has already spread (referred to as Stage 3 or 4 for many cancers).

The current target, which focuses on increasing the proportion of patients diagnosed with early-stage cancer, risks encouraging a focus on easier to diagnose cancers that may have a very long natural history and therefore not pose a significant health risk at the point of diagnosis. This focus could therefore come at the cost of taking action on cancers that spread quickly and where prognosis is poorer, but that are more challenging to diagnose at an early stage. It is notable that many of the poorest prognosis cancers also have the highest proportion of patients diagnosed at stage 3 and stage 4.[82]

There is therefore a strong case for change in the target, to ensure that services are focused on delivering improvement where it will make the most difference to patients, the NHS and society:[43]

> *"We need to focus on finding the cancers that will do the most harm. Therefore it makes sense to target reducing late diagnosis."*

Making an impact on the fast-growing cancers that are often diagnosed late, and for which early-stage symptoms are difficult to identify, will require a different approach to managing risk in the asymptomatic population.

Screening

Cancer screening, which involves testing people without symptoms, is by definition a proactive health service. NHS cancer screening programmes are only commissioned when there is high quality evidence about the benefits, harms and cost-effectiveness and they are usually delivered to high standards. They should be a source of pride.

However, there is potential for them to deliver greater health benefit. Even for cancers with a screening programme, the proportion of patients diagnosed through this route is relatively modest.[43] It is right that the NHS should seek to raise the level of ambition on screening, meaning for existing programmes:

- Investing in screening systems and technology to improve quality, accuracy and responsiveness
- Targeting higher overall levels of participation
- Focusing on health equity, engaging with groups who have lower levels of uptake
- Accelerating implementation, ensuring – for example for lung cancer – that all areas of the country are able to access screening as soon as possible
- Seeking to increase the sensitivity of programmes where there is evidence that this will deliver benefits (through, for example, lowering the FIT threshold) to detect more cancers

Screening programmes are currently only available for a few cancers and existing programmes do not cover some of the poorest prognoses or rare cancers. It will therefore also be important to prepare to implement new programmes as and when the National Screening Committee recommends them, taking steps to minimise the gap between a recommendation and full rollout.

The National Screening Committee, through its Research and Methodology Group, can also play an important role in supporting further research, both signalling where it is required and advising on appropriate trial design and research methods so that researchers can address the issues that will be critical in informing a recommendation on screening.

Although it is not possible to prejudge which programmes may be recommended, continued research into multi-cancer early detection tests, and tumour-specific programmes such as prostate cancer, offers hope that the scope and impact of cancer screening will grow. Further developments can be expected within the next couple of years, so it will be important for cancer services to begin to prepare now.

Screening for multiple cancers at once has different implications for the NHS to single cancer screening, including making possible screening for rare cancers that might not otherwise have been feasible, but also impacting on multiple NHS cancer pathways. Experts said that, given the difficulties in assessing mortality reduction across multiple (often rare) cancers, it may be appropriate to use surrogate endpoints to assess benefits and harms, although this would require careful modelling and discussion. Should such an approach be taken, it would be important to carefully monitor whether progress on these endpoints was indeed translating into improvements in mortality. This suggests that a phased approach to the implementation of new screening programmes (as occurred in lung cancer) is likely to be required.

There may also be opportunities to save resources by reducing screening programmes for people identified as being of very low risk, although this will require careful research and evidence-based consensus. An example might be reducing the number of cervical screening rounds offered to women who have received the HPV vaccine.[43] These resources could be redirected towards greater surveillance for people identified as being of elevated risk.

Case finding

Even when a screening programme is not available, there is the potential to proactively engage with people known to be at high-risk of cancer who may have non-specific or minimal symptoms. Existing examples include:

- Targeted Lung Health Checks, which have been offered to people aged 55 to 74 who are current or former smokers. By the end of August 2024, over 5,000 lung cancers had been detected and over 75% were at Stages 1 or 2 (compared to fewer than 30% before the rollout of Targeted Lung Health Checks).[83] These checks have now been converted into a formal screening programme
- Liver heath checks have been offered to at-risk communities in locations such as GP practices, recovery services, food banks, diabetes clinics, sexual health clinics and homeless shelters, with the intention of catching liver cancer earlier in people at high risk of liver damage[84]

Experts identified a number of areas where case finding should be tested, including:

- **Men at high risk of prostate cancer:** In advance of the National Screening Committee reconsidering prostate cancer screening, there are opportunities to engage with men at high risk of prostate cancer. Risk factors include being of Black ethnicity, higher socio-economic deprivation, and genetic factors including family history and high-risk genetic mutations[85]
- **Extending lung health checks:** Experts suggested that an extension of lung health checks could be piloted, focusing on people exposed to high levels of passive smoking and/or living in areas of high air pollution. Both approaches could also help identify non-cancerous lung conditions
- **Pancreatic health checks:** People with new onset diabetes who are experiencing weight loss are at high risk of pancreatic cancer. A pilot is underway to identify, contact and engage patients, enabling them to have rapid access to diagnostics[43]
- **Oesophageal health checks:** People who have taken proton pump inhibitors for heartburn for extended periods of time may be at elevated risk of oesophageal cancer. It is possible to identify people at risk using electronic health records and offer them enhanced surveillance[43]

Targeting early diagnosis efforts at those with identified risk factors may offer a more effective and sustainable way of tackling late diagnosis. Testing new approaches to case finding should be a priority moving forward, supported by high quality data collection, access and evaluation mechanisms to measure their impact on patient outcomes and services.

Mobilising people with signs and symptoms

There should also be a continued role for raising public awareness of signs and symptoms and – most importantly – motivating them to act. Experts highlighted that people are often conditioned not to 'bother' the NHS and, linked to this, primary healthcare professionals have a culture of preciously guarding scare NHS resources, which can act as a deterrent for seeking help.

People need to know:

- Unexplained changes in their body are a sign that something serious could be wrong
- Conditions such as cancer are often curable if diagnosed and treated early
- The NHS wants people to seek help

Accessible

For early intervention services to be effective, they need to be accessible to the people who might use them. This means designing services that are:

- **Convenient:** in locations that are close to people and available at times that fit in with busy lives
- **Responsive:** offering different access points to suit the varying needs of people and communities
- **Welcoming:** encouraging people to seek help and removing access barriers

Bringing care to people

The early stages of the cancer pathway can and should be delivered close to the people who will use it. It is welcome news that the Government has reaffirmed its commitment to Community Diagnostic Centres (CDCs),[64] but there is more that CDCs can do, including:

- Delivering prevention advice and support to people undergoing diagnostic tests
- Assuming responsibility for investigating non-specific symptoms to enable a 'one-stop shop' approach
- Participating in the delivery of stratified pathways for specific symptoms (eg breast pain clinics or a post-menopausal bleeding)

The adoption of digital solutions also has the potential to expedite access to care and make it more convenient. For example, digital dermoscopy supported by AI triage has the potential to reduce visits to specialist care, expedite waiting times and improve accuracy.[86]

Empowering patients

Developments in technology can also remove the need for a referring clinician. For protocol driven care, where an appointment will lead to a referral providing certain conditions are met, online symptom checkers could be used to determine access. Examples might include for a person with:

- A persistent cough, where a chest x-ray is required (currently being piloted in West Yorkshire and Manchester)
- Bowel symptoms, where a FIT test is needed

Direct patient access to diagnostic services[87]

NHS Somerset has piloted patient-initiated risk assessments for women over 50 who have experienced post-menopausal bleeding. Patients complete an online questionnaire, are triaged using AI and are then given direct access to pelvic ultrasound and biopsy, if appropriate. This has more than halved the time to diagnosis.

Where a person has already been in touch with GP services, automated outreach could be used to encourage them to directly book a test if the symptoms do not resolve. Data can be collected to ensure that a person is not repeatedly accessing such tests in a way that either exposes them to risk or represents an inappropriate use of NHS resources.

Similarly, for patients with known conditions with recurring intermittent symptoms that require investigation, a diagnostic passport could be issued to enable the person to directly access relevant diagnostics, with results reported to the GP and patient through the NHS App.[43]

> *"I have anaemia off and on. Why should I have to go back to my GP so she can order a blood test rather than going directly to the CDC? It is a waste of her and my time."*

We can also empower people after they have finished their treatment by shifting to patient-initiated follow-up, which enables people to seek help and advice when they feel they need it. This also has the potential to free up capacity devoted to routine follow-up, which can then be refocused on early intervention.

Informed

A proactive early intervention service for cancer will only be sustainable and effective if it is guided by evidence, informed by data and enabled by technology. Evidence is required to understand what to do, data enables services to know when to intervene and technology shows us how to deliver. Examples of informed early intervention in this paper include:

- Tailoring prevention services to reflect the risk profile and circumstances of individuals
- Identifying people at very high risk of a particular cancer and offering enhanced surveillance
- Creating an online triage process to enable direct access for patients with defined symptoms to some diagnostic tests
- Providing real-time clinical decision support to GPs, helping them identify potential cancers and refer appropriately
- Using AI to expedite diagnostic pathways and improve accuracy

Such innovations are dependent on research to understand efficacy and service impact, as well as access to and linkages with NHS datasets, particularly in primary care. There should be a significant role for the National Institute for Health and Care Excellence (NICE) in evaluating technology and/or new approaches and providing advice to the NHS, including identifying how capacity can be freed up and what changes may be required to realise these benefits.

Support is also required to enable NHS services to implement innovations in routine practice, as well as accountability mechanisms to evaluate how effectively new approaches are being adopted. Finally, funding mechanisms need to be agreed that ensure that innovative practice can be sustained and any savings realised and reinvested in patient care.

Changing the culture of health-seeking behaviour

Ultimately, a cultural change is required if the NHS, clinicians and patients are to embrace the concept of early intervention in cancer. Delivering a step-change in cancer outcomes requires the imperative of acting to prevent, diagnose and treat cancer early to be seen as being more important than the need to limit pressures on health services.

Policy change can help shape practice and culture. The remainder of this paper addresses how change can be delivered.

Making change happen

Although the barriers to moving the focus of cancer services upstream are significant, there are steps that can be taken to make a proactive early intervention service a reality. Ultimately it will be for local services and clinicians to deliver early intervention – without their support and leadership, change will not happen. They need to be empowered to take action and held accountable for their progress. However, change will not happen without national leadership and support. This chapter makes recommendations for the steps that national policymakers can take to make proactive early intervention in cancer care a reality.

Ensure political leadership on early intervention

Change will not happen without political leadership:

1. As part of the forthcoming NHS 10 Year Health Plan, the Government should make clear that early intervention is a key pillar of its vision for health and care services.

2. To ensure accountability for progress, the Government should set a small number of national standards on early intervention, which should be included in national and Integrated Care Board-level accountability and as part of cancer performance league tables (see recommendations 11 and 12).

3. Creating the space to focus on early intervention will require action to tackle downstream backlogs. The National Cancer Plan should commit to a cancer efficiency programme with the intention of reforming pathways and releasing capacity, removing unnecessary steps in pathways. The actions set out in *Capacity to deliver* are a useful starting point for this process.

Renewed push on prevention

Politicians need to be emboldened to take more rapid and radical action on prevention:

4. Where possible, action on prevention should be taken on a cross-party basis. At the beginning of each Parliament, the Health and Social Care Committee, informed by evidence from the Chief Medical Officer, should publish recommendations on further action to prevent ill-health. These recommendations should then be subject to a free vote in parliament, with the Government tasked with taking forward any measures that are approved.

5. The NHS 10 Year Health Plan and the National Cancer Plan should set out how the NHS will support people in leading healthier lives, with a focus on enhancing smoking cessation, obesity management and alcohol services.

Enable investment in early intervention

The cycle of diverting funding to address problems in downstream services needs to be broken:

6. As a first step, the Government should collect and publish data on expenditure on early intervention services, including prevention, screening and early diagnosis. A group of experts should be tasked with developing a definition for what activity should be in scope.

7. The Office for Budget Responsibility should examine cancer trends in its next report on fiscal risks and sustainability, with a focus on the economic implications of early intervention.

8. The Government should consider the case for establishing an Early Intervention Investment Standard, setting an objective to increase the proportion of NHS investment devoted to upstream services, building on the experience of the Mental Health Investment Standard.

9 To encourage the development of services outside of hospital, location-neutral tariffs should be established for early intervention services. Organisations from across the NHS, not-for-profit and independent sectors should be able to provide these services, providing they are delivered to the standards required by commissioners.

10 Given the pressures on public finances, the Government should consider creating a levy on tobacco companies. There is a strong case for making the polluter pay for the costs of managing tobacco addiction.

Focus on reducing late diagnosis

A key element of early intervention will be reducing late diagnosis:

11 The Government should introduce a new measure of progress on reducing late diagnosis, focusing on delivering an absolute reduction in the numbers of people diagnosed with cancer that has already spread (referred to as Stage 3 or 4 for many cancers). This should replace the existing target that focuses on increasing the proportion of people diagnosed with early-stage disease.

12 A national objective should be set to increase the proportion of cancers diagnosed through screening by 2030. The National Screening Committee should be asked to provide advice on the level of increase that should be achievable with adjustments made to reflect as and when new programmes are recommended and implemented.

13 A new national initiative should be established to evaluate the potential for case finding amongst people deemed to be at increased risk of cancers such as prostate, pancreatic, and oesophageal, as well as exploring the potential to expand lung health checks beyond the scope of the new screening programme.

Technology can enable early intervention

Technology creates opportunities to enable more convenient access, free up capacity and support clinicians:

14 To free up GP capacity to enable a focus on supporting people living with multiple conditions, alternative diagnostic pathways (for example non-specific symptoms clinics or teledermatology) should be made available across all practices. Direct patient access to diagnostics should also be introduced, enabling patients with symptoms to be triaged online and, if appropriate, to book appointments directly.

15 Real time decision support platforms should be made available to all GPs, helping them identify people with potential cancer and refer appropriately. Funding for such platforms should be linked to reductions in missed opportunities to diagnose cancer and improvements in the use of cancer referrals.

16 Capacity-releasing technology, such as AI in diagnostics, should be rapidly adopted to expedite waiting lists, free-up clinical time and improve accuracy, with NICE providing advice on the interventions to prioritise. Tariffs should be adjusted to enable investment and to ensure that, moving forward, inefficient models are not maintained.

The forthcoming NHS 10 Year Health Plan and the subsequent National Cancer Plan provide opportunities to make a statement of intent on proactive early intervention and to begin the policy changes required to turn intent into reality. It is hoped that the recommendations in this paper make a constructive contribution to this process.

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