

A manifesto for cancer research and care **in Scotland**

September 2025





Contents

Introduction	5
The challenge	5
The benefits of investing in beating cancer	6
Our call to action	7
What needs to happen to beat cancer in Scotland	8
Our recommendations	10
Recommendation 1: Fund and deliver the 10-year cancer strategy and meet cancer waiting times	10
Recommendation 2: Strengthen NHS capacity and innovation to meet patient need	14
Recommendation 3: Combat lung cancer – the biggest cancer killer in Scotland	22
Recommendation 4: Create a world-leading cancer research environment	28
References	34







Introduction

The challenge

We've made huge progress on cancer in the last 50 years. Since the 1970s, cancer death rates have fallen by around 17% in Scotland [1], thanks to improvements in the prevention, detection, diagnosis and treatment of cancer.

But cancer is still the defining health issue of our time. Alongside the devastating human cost of cancer, we know that more years of productive life are lost to premature mortality because of cancer than any other disease. Around 30,000 productive years of life were lost in Scotland in 2023 alone. The present value of future lost productivity for those deaths in 2023 is estimated to be around £840m [2]. Lung, bowel and breast cancers are associated with the largest productivity loss [3].

And the challenge is growing.

Despite action to more effectively prevent and treat cancer, we'll see more cancer cases as our population grows and ages. By 2038–2040, the number of new cases is projected to increase by 16% from 2024–2026, meaning around 42,100 new cases diagnosed each year in Scotland [4].

The inequalities in who gets and dies from cancer are stark and unacceptable. Cancer death rates are around 80% higher for people living in the most deprived areas of Scotland compared to the least deprived. Around 4,300 cancer deaths in Scotland each year are associated with deprivation, equating to 12 avoidable deaths each day – around a quarter of all deaths from cancer [5].

And behind every one of these numbers is a person, their family and their friends – the impact is devastating. As well as the huge human cost, cancer causes more deaths in working age than any other disease, leading to a big economic loss.



30,000 years

of productive life were lost in Scotland in 2023 alone and

£840m

is the economic cost of those lost working years



The cancer crisis is urgent.
Without immediate action,
countless lives will be lost.
The time to act is now.

The benefits of investing in beating cancer

Investing in cancer research, prevention, earlier diagnosis and treatment will save and improve lives, benefit the NHS, improve productivity and strengthen the economy.

Health benefits

In Scotland, cancer remains the leading cause of death, with nearly 1 in 2 people expected to develop the disease in their lifetime*. While cancer death rates have fallen by around 17% in Scotland since the 1970s, the overall impact of cancer continues to be substantial and will continue to grow [6].

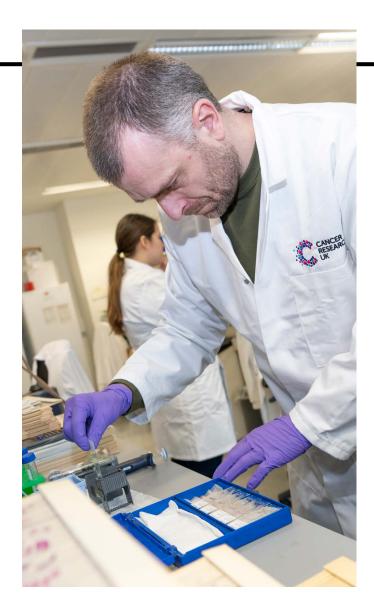
Thousands of cancers are caused by smoking and excess weight alone [7]. So, tackling risk factors such as smoking and overweight and obesity will help to reduce cancer incidence. These efforts would also help with other major health conditions like heart disease and diabetes.

We're in a golden age for cancer research. The transformative potential of data, digital, and artificial intelligence (AI) offers unprecedented opportunities in research to improve outcomes for people affected by cancer. Our research has played a role in more than half of the world's essential cancer drugs, as well as advances in early diagnosis and screening. These innovations directly help to save and improve lives: around 94,200 deaths have been avoided in Scotland since the 1990s, thanks to research and better cancer care [8].

The opportunity and urgent need for further action is clear. Beyond the number of lives saved, this means more precious time with loved ones, renewed contributions to communities and more cherished moments that might otherwise have been lost forever.

Economic impact

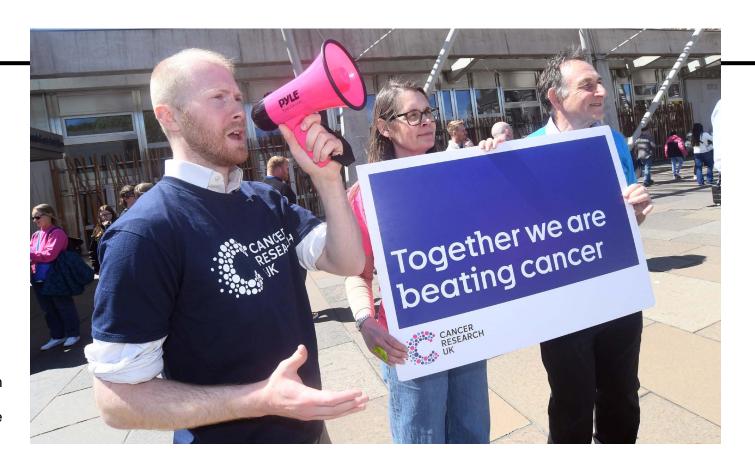
Cancer research not only saves lives but also benefits the economy. The research we've supported has generated billions in economic value and supports thousands of jobs in the UK. In 2020/21, there was £1.8bn of investment in cancer research in the UK. This investment generated more than £5bn of economic impact. This means every £1 invested in cancer research generated £2.80 of economic benefits [9].



Our call to action

Our manifesto for Scotland is an urgent call to action. All political parties contesting this election, and the incoming government, should commit to making cancer a top priority and support our evidence-based recommendations.

To prevent more cancers, reduce cancer deaths and improve the lives of those living with cancer requires strong leadership and collaboration. By making sure a long-term cancer strategy continues to be prioritised and invested in, and by working together with the NHS, charities, universities, industry and patients, the Scottish Government can create a healthier future for people in Scotland.



Our headline ambition is that the Scottish Government should make a national commitment to reduce the cancer death rate by 15% by 2040, which would prevent around 10,100 cancer deaths between now and 2040.

This reduction would avoid £85m in productivity loss from the cancer deaths prevented in 2040 alone. [10][11]

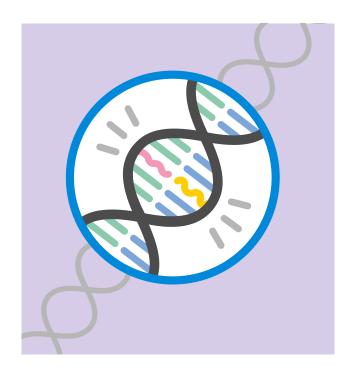
Our manifesto sets out measures to help achieve this ambition and make sure people in Scotland live longer, better lives, free from the fear of cancer.

What needs to happen to beat cancer in Scotland

- Recommendation 1:
 Fund and deliver the 10-year
 cancer strategy and meet
 cancer waiting times by:
- committing to delivering the 10-year cancer strategy, underpinned by three-year action plans and adequate ringfenced funding for delivery
- ensuring that cancer prevention, earlier diagnosis and quicker access to kinder and better treatments are fully prioritised, so that:
 - cancer waiting time targets are being successfully met by the end of the next parliamentary session in 2031
 - the Scottish Government meets its commitment to reduce the proportion of cancers diagnosed at stages 3 and 4 by 18% by 2033 [12]
- updating the 10-year cancer strategy and next three-year cancer action plan to make sure cancer health inequalities are reduced and addressed throughout the cancer pathway

- Recommendation 2: Strengthen NHS capacity and innovation to meet patient need by:
- delivering a cancer workforce plan aligned with the 10-year cancer strategy, based on modelling for a sustainable cancer workforce across all key cancer professions
- providing funding to address workforce shortfalls and geographic inequalities in Scotland
- developing, funding and delivering a national NHS capital investment strategy that provides the equipment needed to deliver the commitments of the 10-year cancer strategy
- equipping and supporting primary care teams to recognise and refer suspected cancer cases quickly, by ensuring uptake of updated Scottish Referral Guidelines for Suspected Cancer, and increasing capacity and ensuring equitable access to primary care
- strengthening the innovation ecosystem by embedding new technologies and treatments with the greatest potential to improve cancer outcomes into healthcare systems more quickly – incentivising research activity within the NHS and speeding up pathways to adoption

 funding the five-year Genomic Medicine Strategy to support transformation and unlock the potential of new tests and treatments – the new funding and commissioning model for genomics services in Scotland must future-proof capacity, introduce consistent test reporting and ensure service readiness to support the delivery of innovative tests and treatments, as well as patient access to genomically enabled clinical trials



- Recommendation 3:
 Combat lung cancer –
 the bigest cancer killer
 in Scotland by:
- making sure all measures in the Tobacco and Vapes Bill, including the age of sale policy, are fully implemented in an evidence-based way and effectively enforced
- continuing to fund stop smoking services in all NHS territorial health boards until Scotland is smokefree, increasing the accessibility and promotion of services to make sure everyone who needs support to quit gets it
- committing to and fully investing in a national lung cancer screening programme:
 - working with NHS Scotland to fully implement the lung screening programme by the end of the current cancer strategy in 2033
 - making sure smoking cessation services are embedded into the lung cancer screening programme and access is equitable across Scotland

- Recommendation 4:
 Create a world-leading
 cancer research
 environment by:
- increasing strategic institutional research and innovation funding to further support cancer research and Scotland's research and development (R&D) ecosystem
- investing in and supporting the delivery of a new Scottish Health and Biomedicine Institute (SHBI) to deliver new innovations that will benefit people and the economy in Scotland



Our recommendations



Recommendation 1: Fund and deliver the 10-year cancer strategy and meet cancer waiting times

The vision

Beating cancer in Scotland means beating it for everyone, regardless of who they are or where they live. We envisage a future where effective cancer prevention is prioritised, where cancers are diagnosed earlier and world-class cancer treatment is accessible to everyone, leaving no one behind.

Scotland's current cancer strategy, published in 2023, is bold and ambitious. For example, it sets the welcome goal of reducing the proportion of cancers diagnosed at stages 3 and 4 by 18% by 2033. And it comes alongside three-year cancer action plans and a monitoring and evaluation framework. While progress has been made with implementation, there are still some significant challenges and barriers to making more rapid progress – most notably, the lack of adequate funding.

Now is the moment to unlock the strategy's full potential through sustained investment, a unified national effort to meet cancer ambitions and a relentless focus on tackling inequalities.

The challenge

Funding to back the cancer strategy

Long-term cancer strategies are the bedrock of success. International evidence shows that countries with a consistent set of fully funded cancer strategies have, over time, leapt ahead in improving cancer health outcomes for their citizens [13].

Scotland's 10-year cancer strategy is comprehensive and underpinned by many of the elements required for effective delivery: strong monitoring, evaluation and accountability mechanisms, integrated third-sector and lived-experience insights, accompanying three-year action plans and clear ownership for implementation.

But progress is being delayed because of a lack of adequate funding for delivery. Funding for individual aspects within the cancer strategy often occurs through ad-hoc, non-recurring allocations, rather than long-term funding linked to strategy deliverables.

For example, in 2023, £11.3m in non-recurring funding was released to health boards for improving cancer waiting times [14], while in 2024, the Scottish Government confirmed around £1.5m in funding for 12 Single Point of Contact pilots [15].

Although this is welcome, there's a lack of dedicated long-term funding programmes and limited transparency regarding the overall budget allocated for cancer. This makes it difficult to monitor spending related to the cancer strategy or identify where there are gaps.



The lack of sustainable long-term funding for the cancer strategy has slowed the implementation of many measures that will help improve cancer outcomes and care, such as the full rollout of Rapid Cancer Diagnostic Services. It could also slow the implementation of the updated Scottish Referral Guidelines and delivery of public campaigns to support help-seeking [16].

The effective delivery of the strategy depends upon sufficient and sustainable investment in primary care, workforce, clinical research and equipment, as explored in greater detail in the following sections.

With cancer incidence projected to rise by 16% between 2025 and 2040, and with annual cases expected to increase from around 36,400 to around 42,100 in Scotland [17], there's an urgent need for the timely and equitable implementation of the cancer strategy, so everybody can live longer, better lives [18].

Unacceptable cancer inequalities

In Scotland, cancer incidence and mortality are higher in the most deprived areas compared to the least, and similar patterns are seen across exposure to cancer risk factors, participation in screening, awareness of potential cancer symptoms, ability to access help, stage at diagnosis and timeliness of treatment [19].

As the Health, Social Care and Sport Scottish Parliament Committee have previously highlighted, action across all parts of government is needed to greatly reduce health inequalities in Scotland [20]. Effective collaboration with NHS Scotland, health boards and local partners is also crucial for local implementation [21] [22].

It's positive that reducing inequalities is recognised as a key ambition of the cancer strategy [23]. But the strategy currently lacks clearly defined targets or named bodies which are accountable for delivery.

We suggest that the cancer strategy is updated accordingly, and the next three-year action plan includes ambitious targets to urgently address cancer and health inequalities. The plan should outline which organisations and bodies are tasked with delivery and are held accountable, to ensure progress towards equitable access to services across the whole cancer pathway.

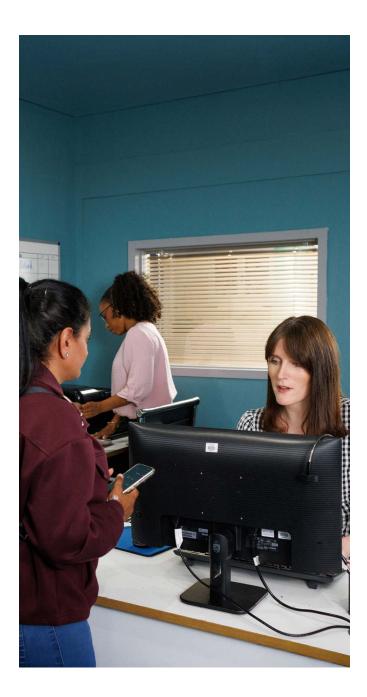
Cancer death rates are around

80%

higher for people living in the most deprived areas of Scotland compared to the least deprived.







Meeting cancer waiting times

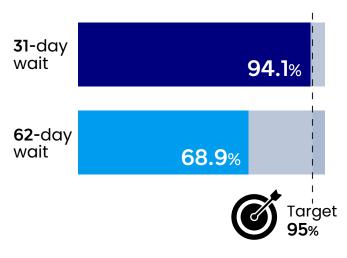
Cancer waiting times standards outline the maximum time people should expect to wait for tests, diagnosis and treatment. These targets are the very minimum people affected by cancer deserve and meeting them is important for securing better outcomes and experiences.

Two standards cover elements of the cancer pathway in Scotland:

- The 62-day standard states that 95% of patients should start their first treatment within 62 days of a cancer referral.
- The 31-day standard states that 95% of patients should start their first treatment within 31 days of a decision to treat [24].

The latest figures from the quarter ending March 2025 show that neither the 62-day standard nor the 31-day standard was met nationally [25]. Whilst the 31-day standard is more frequently met, the 62-day target hasn't been met nationally since 2012, indicating that people are waiting too long to get a diagnosis and start treatment.

At a regional level, only 1 of 14 NHS health boards met the 62-day standard in the last quarter (NHS Lanarkshire), whilst the 31day standard was met by 10 of 15 boards. A four-week delay in starting cancer treatment is associated with an increase in mortality [26]. It's therefore vital that the Scottish Government makes sure cancer waiting time targets are consistently met across all health boards by the end of the next parliamentary session.

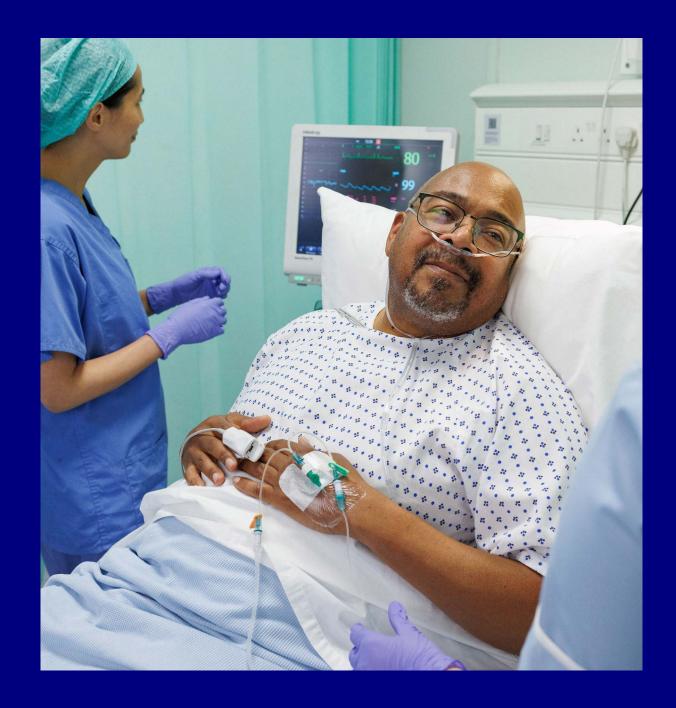


Figures from March 2025



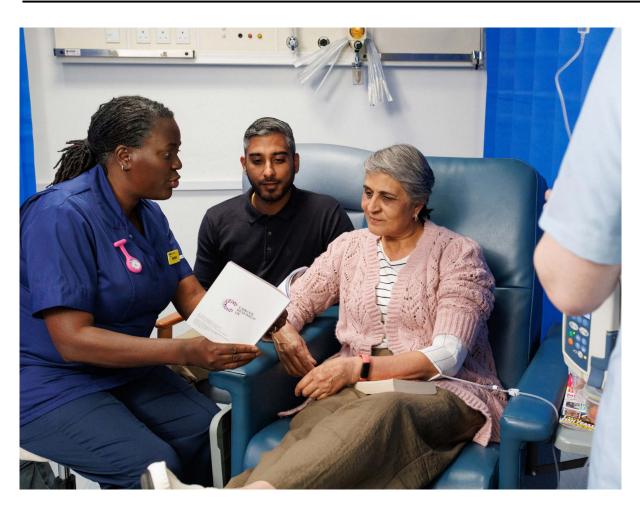
Recommendation 1 priority actions

- Commit to delivering the 10-year cancer strategy, underpinned by three-year action plans and adequate ringfenced funding for delivery
- Ensure that cancer prevention, earlier diagnosis and quicker access to kinder and better treatments are fully prioritised, so that:
 - cancer waiting time targets are being successfully met by the end of the next parliamentary session in 2031
 - the Scottish Government meets its commitment to reduce the proportion of cancers diagnosed at stages 3 and 4 by 18% by 2033 [27]
- Update the 10-year cancer strategy and next three-year cancer action plan to make sure cancer health inequalities are reduced and addressed throughout the cancer pathway



Our recommendations

Recommendation 2: Strengthen NHS capacity and innovation to meet patient need



The vision

We envisage a future where Scotland leads the world in cancer care – where every person, no matter where they live, has swift, equitable access to the very best in cancer prevention, diagnosis and treatment.

Achieving this vision means building a skilled and stable cancer workforce, equipped with essential kit and cutting-edge tools and technologies. It means making sure everyone has quick access to primary care. And it means embracing innovation at every level of the health system, rapidly adopting breakthroughs in research and care to benefit every patient.

With a refreshed cancer workforce plan, a capital investment strategy that's fit to take on cancer and a robust primary care system – all backed by funding – we can build a health service that not only meets today's needs but is ready for tomorrow's challenges.

The challenge

Diagnosing and treating cancer promptly requires a well-resourced NHS with enough staff and equipment. The ability to adopt cutting-edge technologies and treatments quickly will be key to improving cancer outcomes and increasing productivity.

Sufficient workforce

The NHS workforce underpins every stage of the cancer pathway, from research and screening to diagnosis and treatment. But challenges with recruitment and retention mean that the NHS is struggling to meet the challenge caused by rising cancer incidence.

The North of Scotland has just

4.5 clinical radiologists per 100,000 people,

compared to a UK average of 10.1



This challenge will likely increase in 2026 when NHS staff working patterns are due to change, as working hours are reduced. Without adequate staff numbers and sufficient workforce planning, it won't be possible to deliver the ambitions of the government's 10-year cancer strategy [28].

Inadequate staff numbers will negatively impact cancer outcomes – for example, there are estimated shortfalls of 29% for clinical radiologists and 15% for clinical oncologists, which are set to rise to 39% and 19% by 2029 if no action is taken..

Workforce shortages vary across Scotland, with the North of Scotland having the lowest number of clinical radiologists of any region in the UK (4.5 per 100,000 people, compared to a UK average of 10.1 and an Organisation for Economic Co-operation and Development (OECD) average of 12.8) [29].

The Scottish Government National Workforce Strategy for Health and Social Care and the Scotland Cancer action plan 2023– 2026 made welcome commitments to modelling a sustainable cancer workforce, delivering a national endoscopy training programme and increasing oncology capacity [30][31]. While these commitments are underway, they haven't been fully delivered. In particular, the modelling for a sustainable cancer workforce has only been done for diagnostic imaging [32].

With the current workforce strategy set to expire in 2026, there's an opportunity to refresh Scotland's approach to workforce planning. As part of this, we recommend the development of a single cancer workforce plan. This plan should be grounded in robust modelling to ensure a sustainable cancer workforce across all key professions, address existing shortfalls and regional inequalities, and align closely with the delivery of Scotland's 10-year cancer strategy.

Adequate equipment

A modern, efficient health service that offers every patient the best care relies on sufficient capital investment in key equipment and facilities.

But, as indicated in the Audit Scotland report on finance and performance in the NHS in Scotland in 2024, capital investment in the NHS estate and equipment has been underfunded in recent years [33].

Sources show that diagnostic equipment is being used well beyond its recommended operational lifespan, with clinicians relying on outdated equipment that's more prone to break down and often unable to benefit from modern technologies like Al. This is leading to delays and inefficiencies, while holding back service improvements [34].

People are waiting too long to get tests and Scotland conducts fewer CT and MRI scans than the OECD average [35]. In March 2025, nearly 143,000 people were waiting for a radiology or endoscopy test in Scotland, of which 41% had been waiting more than six weeks [36]. This suggests that Scotland is falling behind in making sure the NHS has sufficient diagnostic capacity to deliver timely access for everyone who needs it – something which will only get worse with rising cancer incidence.

A lack of investment in new diagnostic capacity will hold back the introduction

of vital new interventions like lung cancer screening that will help reduce latestage cancer diagnoses, a key ambition in the Cancer strategy for Scotland.

Poor data is a limiting factor in planning NHS capital investment. The Scottish Government is taking steps towards a national NHS capital investment strategy [37], which is positive and will offer new opportunities for

improved data collection – particularly for numbers of CT, MRI and LINAC machines (a linear accelerator – the most common radiotherapy machine). The investment strategy must take account of commitments made in the cancer strategy, as well as the increase in service capacity required to respond to rising cancer incidence and maximise innovation opportunities.



Boosting primary care

Primary care plays an essential role in improving cancer outcomes. 65% of cancer diagnoses come via GP referral, with primary care also playing key roles in screening, safety netting and promoting healthy behaviours [38].

Making sure everyone can easily access primary care is vital. But our insight shows that around 1 in 4 people didn't contact a healthcare professional after noticing a potential cancer symptom. The most important barrier to seeking help was public perception that getting an appointment is difficult [39].

The pressure on primary care is increasing. Audit Scotland's 2025 report on general practice notes that, compared to 2017, there are fewer whole-time equivalent (WTE) GPs, and the Scottish Government's commitment to increase the number of GPs by 800 by 2027 is unlikely to be met [40].

It also highlights considerable variation across regions, with the average number of patients per WTE GP ranging from 721 in NHS Orkney to 2,373 in NHS Lanarkshire. This points to geographical inequalities in access to primary care.

The Scottish Government should take steps to ensure timely and equitable access to primary care, including specific actions to address inequalities such as embedding inclusion health into GP training and ensuring The average number of patients per WTE GP ranges from

721 in Orkney

2,373

in Lanarkshire





long-term funding for effective interventions (e.g. Inclusion Health Action in General Practice and the Scottish Deep End Project). Inclusion health refers to targeted actions and services designed to address the health needs of people who are socially excluded or at high risk of poor health due to factors such as poverty, homelessness, substance use or involvement with the criminal justice system.

The Scottish Referral Guidelines for Suspected Cancer, which guide GPs on whether to refer patients to secondary care or request further tests, have been recently reviewed and updated to include additional evidence-based guidance on non-specific symptoms and safety netting to reduce the chance of missed cancer [41]. Practices will need extra resource to embed guideline changes into their IT systems and make sure there's sufficient GP and diagnostic capacity to implement these changes. Improving data access will need to be a priority to enable robust ongoing evaluation.

Supporting clinical research and adopting innovation

Clinical research plays a critical role in developing innovations, translating scientific discoveries into safer, kinder and more effective cancer diagnostics and treatments. In its Research and Innovation Plan 2025 [44], NHS Education for Scotland affirms that embedding research and innovation across the health and social care system is vital to building a skilled, adaptable workforce and delivering high-quality, sustainable services that meet the evolving needs of Scotland's population.

However, due to increasing pressure on the health service, it's become more difficult to deliver research and it's taking too long to set up clinical trials. Research and its benefits lack visibility within the health service – there's a lack of accountability for research at senior levels, and health service staff don't have enough protected research time. Additionally, Scottish Government funding for health and social care R&D is proportionally lower than equivalent funding in England [45] [46].

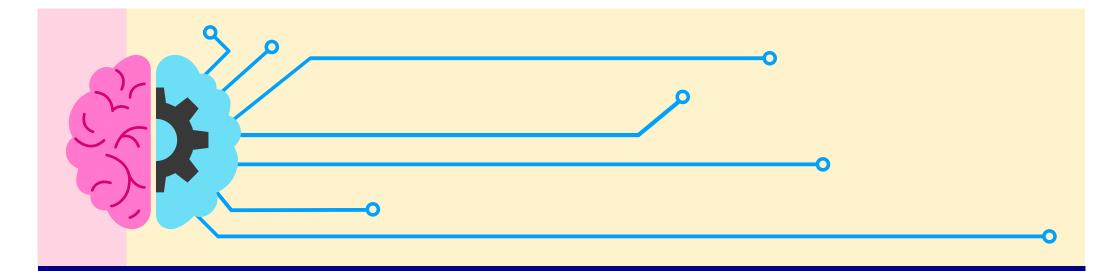
Doing more to prioritise research in the NHS in Scotland will accelerate improvements to care and strengthen the R&D ecosystem, attracting talent and building a globally competitive life sciences industry.

The Scottish Government can also do more to get innovations adopted across the NHS. Scotland has a track record of leading the UK in rolling out innovations at pace, such as the Scottish Capsule Programme for colon capsule endoscopy. But barriers still exist, including the lack of standardised routes to adoption for emerging types of innovation, such as AI tools and digital technologies. The lack of standardised routes can make it difficult to know when an innovation is ready to be adopted, whether it's costeffective and what alternative options exist.

The Accelerated National Innovation Adoption (ANIA) pathway - funded by the Chief Scientist Office – is making positive strides to address this issue by expediting national rollout of innovations that have been proven to deliver significant benefit to patients or service productivity. However, funding for ANIA is limited, and clarity and direction are still missing for innovations that are in development. The Scottish Government can build on the success of the ANIA pathway by increasing support and facilitating more formal alignment and transparency between adoption activity happening at the national level and activity being led regionally and locally.

> Team IMAXT, part of Cancer Grand Challenges, has developed VR software that allows users to see the inside of tumours.





The opportunity for innovation in cancer diagnosis and treatment

Innovations present huge potential for improving cancer outcomes – from new detection and diagnostic tools to novel medicines, digital technology and data platforms, and the transformation of pathways for diagnosis and treatment.

Services like surgery and pathology are becoming fully or partly digitised. Cuttingedge imaging technology is being used to improve radiology and endoscopy efficiencies and performance.

In the short term, AI could drastically improve efficiency within services and increase clinicians' capacity, with computers taking on simple routine tasks. In the longer term, the ability of AI to find patterns in large, complex datasets will unlock opportunities to predict, detect, diagnose and treat cancer.

Vaccines to treat cancer, which are currently in early-stage trials, could be transformative for patients, reducing the need for invasive treatment and offering improved outcomes. In December 2024, a Scottish patient became the first in Europe to receive personalised cancer therapy for gastro-oesophageal cancer, as part of a trial at the University of Dundee [42].

The UK National Screening Committee has recently recommended using cervical self-sampling for non-responders. This innovation could help reduce inequalities in screening uptake by providing a different route for underserved populations [43]. There's an opportunity for the Scottish Government, working with NHS Scotland, to expedite the rollout of this innovation in the next three-year action plans.

For all innovations, the journey from research to adoption throughout the health service must be streamlined to make sure people affected by cancer see the benefits of proven innovations more quickly.

Enabling genomics

Cancer is caused by abnormal changes to the DNA in our cells. The better we understand those changes, the more we can do to prevent, detect, manage and treat the disease. That's why genomics - the study of all the information in our DNA – is such a crucial part of cancer research.

Genomics is driving a move from a 'one size fits all' approach to cancer care to one that pays attention to key genetic differences. This means doctors can match cancers driven by different genetic changes to therapies specifically designed to target them. Precision and personalised treatments such as these can mean better outcomes for patients and fewer side effects.

But barriers remain to the delivery of genomic services in Scotland. Demand for genomic services continues to grow, particularly for cancer. This means that the four laboratories that deliver genomic testing need the capacity to meet increasing demand for both cancer care and research. And as genomics laboratories each sit under a different health board, management isn't coordinated, meaning challenges

can arise with variation in how patient test results are reported.

Currently, patients can miss out on opportunities to participate in genomically stratified clinical trials, as laboratories aren't required to, or reimbursed for, reporting on clinical trial biomarker targets. This makes it hard for clinicians to know which trials their patients are eligible for.

Furthermore, Scottish patients can experience delays in accessing precision treatments that have been approved by the Scottish Medicines Consortium. Companion diagnostic biomarker tests, which help to determine whether there's a personalised medicine that might be suitable for a patient based on the profile of their tumour, are currently funded on a case-by-case basis, with no dedicated funding available for new tests. This can prevent patients from accessing proven treatments in a timely manner, and means Scottish patients don't have access to the same treatments as patients in England. Further action is needed from the Scottish Government to create a consistent funding mechanism for new genomic tests for cancer [47].

These core issues are recognised in the Scottish Government's Genomic Medicine Strategy 2024-2029 and year one Implementation Plan, which offers welcome ambition and a strong foundation for action [48]. These strategies note the need for a comprehensive test approval pipeline and a sustainable funding and commissioning model.

There's been significant progress in the last year, including ongoing work on the development of an online genomic test directory, mapping workforce education needs in genomics and developing a national genomics workforce plan. There's also a plan to optimise and futureproof genomics service delivery.

However, lack of funding continues to limit the delivery of these aims and wider transformation work. We welcome the development of the Implementation Plan for year two, but funding needs to be provided for implementation. Without this, the Scottish Government will be unable to deliver on its ambitions set out in the Genomic Medicine Strategy, and patients' access to precision tests and treatments in Scotland will remain limited.





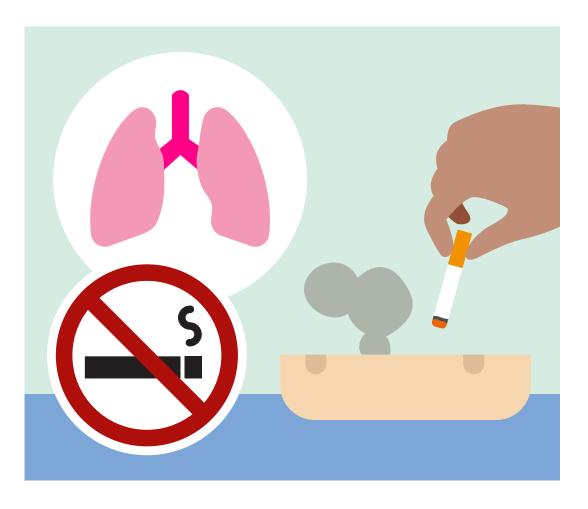
Recommendation 2 priority actions

- Deliver a cancer workforce plan, based on modelling for a sustainable cancer workforce across all key cancer professions and aligned with the 10-year cancer strategy
- Provide funding to address workforce shortfalls and geographic inequalities in Scotland
- Develop, fund and deliver a national NHS capital investment strategy that provides the equipment needed to deliver the commitments of the 10-year cancer strategy
- Equip and support primary care teams to recognise and refer suspected cancer cases quickly, by ensuring uptake of updated Scottish Referral Guidelines for Suspected Cancer, and increasing capacity and ensuring equitable access to primary care
- Strengthen the innovation ecosystem to embed new technologies and treatments with the greatest potential to improve cancer outcomes into healthcare systems more quickly, by incentivising research activity within the NHS and speeding up pathways to adoption
- Fund the five-year Genomic Medicine Strategy to support transformation and unlock the potential of new tests and treatments – the new funding and commissioning model for genomics services in Scotland must future-proof capacity, introduce consistent test reporting and ensure service readiness to support the delivery of innovative tests and treatments, as well as patient access to genomically enabled clinical trials

Our recommendations

Recommendation 3:

Combat lung cancer – the biggest cancer killer in Scotland



The vision

In addition to diagnosing and treating lung cancers earlier, we want to prevent as many cases as possible in Scotland by reducing tobacco use.

Achieving this vision means taking bold action on tobacco. The Scottish Government has made positive progress on tobacco control to date, and there's strong support for further action, with around 75% of adults in Scotland supporting the Scottish Government's smokefree ambition [49].

To make smoking a thing of the past, the Scottish Government must implement and enforce the age of sale of tobacco policy through the Tobacco and Vapes Bill and fully fund smoking cessation services to help people quit.

Delivering a nationally coordinated lung cancer screening programme in Scotland is also key to achieving our vision. We need a programme that detects lung cancers earlier, when there are more treatment options, and prevents more lung cancer cases by helping people quit smoking.

Our analysis estimates that with full national coverage and 50% uptake, lung screening in Scotland could mean around 400 extra patients each year are diagnosed with lung cancer at an early stage rather than a late stage [50]. It could save 230 lives and provide wider economic benefits of around £176m each year [51].



The challenge

Lung cancer is the most common cancer in Scotland [52], and the most common cause of cancer death. It's also more common among people living in more deprived areas compared to less deprived areas. Tackling lung cancer will reduce lives lost to cancer and improve cancer inequalities.

Tobacco causes almost 7 in 10 (65%) lung cancers in Scotland, and almost 2 in 10 (17%) of all cancers in Scotland. Tobacco is responsible for around 9,100 deaths each year in Scotland [53].

The Scottish Government isn't on track to meet its 2034 tobacco-free target until the late 2040s, and there are stark inequalities within this statistic: people in less deprived areas are projected to reach the target sooner (by 2029) than those in more deprived areas (beyond 2050) [54].

For those who get lung cancer, detecting it earlier is the best way to improve chances of survival. Yet, in 2022, around 7 in 10 (68%) lung cancer patients with a known stage were diagnosed at stages 3 and 4 in Scotland [55]. The best tool we currently have for diagnosing lung cancers earlier is screening.

With full national coverage and 50% uptake, lung screening in Scotland could mean around



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Supporting the Tobacco and Vapes Bill

Every year, around 11,500 people aged 18–25 start smoking in Scotland [56]. Preventing young people from ever starting smoking is key to a future without tobacco. The Tobacco and Vapes Bill's policy to incrementally raise the age of sale of tobacco could prevent premature death and a lifetime of addiction and ill health for generations to come. This legislation must be implemented and, once in place, Trading Standards Scotland must be adequately funded to ensure appropriate enforcement.

Other measures in the Tobacco and Vapes Bill, once in law and enforced, will enable the Scottish Government to further limit the availability of tobacco and reduce the appeal of vapes to young people – including through a licensing scheme for retailers, smokefree and vapefree places, and action on the flavours, packaging and display of vapes.

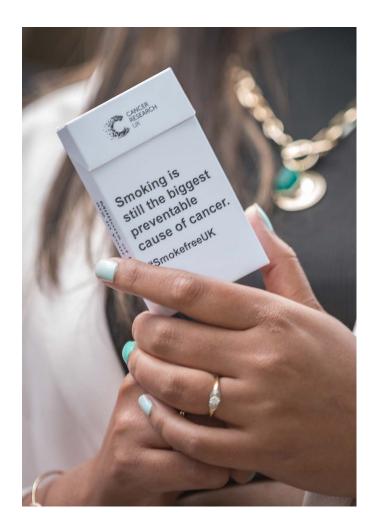
Delivering smoking cessation

Preventing people from taking up smoking in the future is critical, but it's not enough on its own to achieve a tobacco-free nation.

More than 689,000 people still smoke in Scotland – 15% of the adult population [57]. Moreover, the harms of smoking aren't felt equally across society – smoking rates remain more than four times higher in the most deprived areas of Scotland compared to the least deprived. [58].

People who smoke should be encouraged to stop, and given access to the services and tools that can help them quit. Although Quit Your Way services are available across all 14 health boards, there's variation in their performance and the number of successful quit attempts [59].

There are also stark differences across the population, with our research finding that people in lower socioeconomic groups face greater barriers to accessing stop smoking services, such as remoteness of service, lack of service visibility and low awareness [60].



The Scottish Government should continue to fund smoking cessation services and public health campaigns to make sure everyone who smokes is encouraged to stop and has access to support to help them quit.

Smoking rates remain more than

4 times higher

in the most deprived areas of Scotland compared to the least deprived.



Vaping as a cessation tool

Given that the long-term impacts of vapes are still unknown, they shouldn't be used by people who have never smoked – especially young people. It's right that the Scottish Government is introducing measures to reduce the availability of vapes to children and regulate their appeal.

At the same time, the evidence so far suggests that legal vapes are far less harmful than smoking and can help people quit smoking [61]. They're generally a very popular smoking cessation tool for people across all socioeconomic groups.

When taking action on youth vaping, it's important the Scottish Government strikes a balance between reducing the appeal to young people, while making sure they remain appealing and affordable to adults who smoke and want to quit.

Taking wider action to prevent cancer

Tobacco remains the biggest preventable cause of cancer [62]. Reducing tobacco use will prevent lung cancer cases from developing, and many other types of cancer too. In addition to action on tobacco, we continue to support measures to help prevent obesity, support healthy lifestyles and tackle the root causes of health inequalities.

Commitment and funding for lung cancer screening

In 2022, the UK National Screening Committee (UK NSC) recommended targeted screening for adults aged 55–74 identified as being at high risk of lung cancer [63]. We welcome the commitment to roll out lung screening in the Cancer strategy for Scotland and its Cancer action plan 2023– 2026 [64], but it has yet to be implemented.

England and Wales have both committed to a full rollout of national targeted lung cancer screening programmes, with England aiming for full coverage by 2030. In the first two phases of rollout in England, more than 75% of lung cancers diagnosed through screening have been at stage 1 and 2, compared to fewer than 30% before the screening programme [65].

The next Scottish Government should make a commitment to a full rollout of lung cancer screening, with ringfenced funding and a roadmap for full rollout by 2033.



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Implementation of lung cancer screening

The UK NSC recommends that a national lung cancer screening programme should include an integrated smoking cessation service [66]. Not only does smoking cessation reduce cancer incidence, it also reduces cancer-specific mortality compared to continuing to smoke [67] [68] [69]. To make sure this approach is successful, smoking cessation services must be adequately resourced to respond to increases from lung cancer screening referrals.

When it comes to lung cancer incidence, Scotland has the biggest gap of all four UK nations between the least and most deprived communities. As people who live in more deprived areas are more likely to die from lung cancer [70], screening has the potential to benefit these groups the most. But people living in the most deprived areas also face the biggest barriers to participation, as they're less likely to respond to an invitation for screening and more likely to decline it [71]. It's key that the rollout of the lung cancer screening programme in Scotland takes into account and addresses these barriers in service design and delivery.

Full rollout will require strong leadership from the Scottish Government and collaborative working across NHS organisations on areas including IT system integration, procurement and workforce agreements. Learnings from pilots such as the LUNGSCOT study [72] and programmes from other nations should be used to inform implementation.









Recommendation 3 priority actions

- Make sure all measures in the Tobacco and Vapes Bill, including the age-of-sale policy, are fully implemented in an evidencebased way and effectively enforced
- Continue to fund stop smoking services in all NHS territorial health boards until Scotland is smokefree, increasing the accessibility and promotion of services to make sure everyone who needs support to quit gets it
- Commit to and fully invest in a national lung cancer screening programme
 - Work with NHS Scotland to fully implement the lung screening programme by the end of the current cancer strategy in 2033
 - Make sure smoking cessation services are embedded into the lung cancer screening programme and access is equitable across Scotland

Our recommendations

Recommendation 4:

Create a world-leading cancer research environment



The vision

We want to make sure Scotland continues to be a world leader in biomedical science. With the right investment, Scotland's universities, hospitals and industry could further strengthen the excellent and collaborative research environment to deliver the health innovations we need and help Scotland remain globally competitive.

A bold and ambitious approach has been proposed and is being led by the Universities of Edinburgh and Glasgow. It includes the delivery of a new Scottish Health and Biomedicine Institute. Building on the excellent partnership approach already present in Scotland, the institute would bring together the very best scientists and experts from different disciplines to look at a wide range of diseases and conditions facing the Scottish population.

This multi-disease and multi-disciplinary research approach is increasingly important to accelerate our understanding of cancer and how it develops, as well as how it can be more effectively detected, diagnosed and treated. It will allow prevention and new therapeutics to be placed at the heart of Scotland's health mission and support plans to tackle the increasingly complex health challenges we face.

By advancing this approach, Scotland will enhance its appeal to international life sciences companies and scientific talent, ensuring that the sector continues to contribute to both improved health outcomes and economic growth.

The challenge

Supporting research in universities

We remain fully committed to supporting research in Scotland. People in Scotland continue to benefit from the £352m investment we've made in cancer research in Scotland over the last 10 years. Over the past five years, we've invested over £3m in a wide range of cancer trials in Scotland, including over £800,000 for liver cancer, over £600,000 for colon and rectal cancer and over £400,000 for stomach cancer.

We've invested

£352m

in cancer research in Scotland over the last 10 years. Over the past five years, we've also supported the Glasgow and Edinburgh Experimental Cancer Medicine Centres, as well as two research nurses with over £920,000 worth of funding.

For Scotland to maintain its globally leading scientific status, government research investment must also be prioritised. We're increasingly concerned about the level of government funding (Research Excellence Grant (REG) strategic institutional funding) into the Scottish universities that underpin its research and innovation system, and the implications this has for Scotland's ability to maintain its worldleading research status. This funding has decreased in cash terms over the last seven years, at a time when the cost of research has increased due to inflation.

We've observed a decline in the proportion of 'response mode' funding (researchers applying for funding for their own research ideas) going to Scottish institutions, falling from 12% in 2018/19 to 8% in 2023/24. This

trend reflects broader systemic challenges in the Scottish research environment.

Government funding is a critical enabler for the success of Scottish universities. Stagnation in this foundational support undermines Scotland's ability to attract and retain top research talent and maintain infrastructure, which in turn impacts universities' ability to win competitive funding from funders like Cancer Research UK.

Increasing REG funding to universities will enable the higher education sector in Scotland to create and sustain the conditions for excellent research and impactful innovation. It will support universities to leverage additional public and private investment to scale up their impact, and attract, nurture and retain world-class talent. REG funding also supports the development of strong partnerships between universities, the NHS, government, industry and charities like Cancer Research UK. This will help speed up the translation of discoveries from the lab to the clinic for people in Scotland.



A new Scottish Health and Biomedicine Institute

We support a proposal led by the Universities of Edinburgh and Glasgow to create a Scottish Health and Biomedicine Institute (SHBI). We believe it's a bold and essential national initiative that will enable us to build greater scientific understanding of disease and the complex interaction of a range of diseases, allowing us to develop targeted, efficient translational pathways for taking discoveries from the lab to the clinic.

Scotland has a unique advantage in the form of strong distributed research clusters in life sciences. Research clusters bring together a concentration of the best talent, key infrastructure, the right institutions and investment all in one place. This creates environments where collaboration, innovation and knowledgesharing happen more easily and effectively. The whole system becomes much more productive than the sum of its parts.

By creating a unified health institute that links these research clusters into a Scottish 'supercluster', researchers could work on a range of diseases and conditions, together with other disciplines such as mathematics, pharmacology, data science and Al. It's also critical that there's proximity to hospitals and patients, universities and industry partners. This will make sure research can

be propelled from discovery through to clinical trials much more quickly, leading to more effective cancer prevention, earlier and more effective diagnosis and kinder, better treatments [73].

It's vital that all political parties and the incoming Scottish Government support the delivery of the SHBI as a national asset, aligned to Scotland's strengths in its regional research clusters. By championing its mission and helping to fund its development, they can back the SHBI's role in improving the nation's health and growing the economy.





Recommendation 4 priority actions

- Increase strategic institutional research and innovation funding to further support cancer research and Scotland's R&D ecosystem
- Invest in and support the delivery of a new SHBI to deliver new innovations that will benefit people and the economy in Scotland





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Images

Page 4

Cancer Research UK volunteer Campaigns Ambassador (Shaumya Kularajan) at an event in the Scottish Parliament. Image credit: Steve Welsh

Page 7

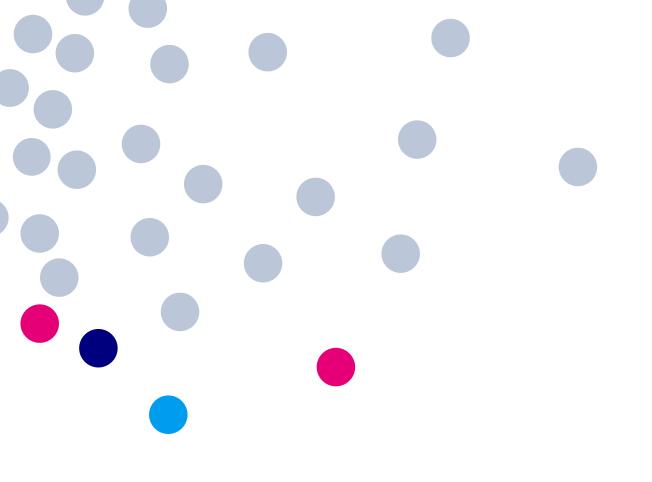
Cancer Research UK volunteer Campaigns Ambassadors (Fiona Brown, Shaumya Kularajan, & Jose Gaign) at an event in the Scottish Parliament Image credit: Michael Boyd

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Cancer Research UK is a registered charity in England and Wales (1089464), Scotland (SC041666), the Isle of Man (1103) and Jersey (247).



Further information

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