

## **BSI response to government's call for evidence for the National Cancer Plan**

### **Context of the BSI response**

The government's call for evidence for the [National Cancer Plan](#) requires respondents to submit their responses via an online form. This form asks broad-ranging questions about the experience of individuals and organisations of all elements of cancer survival in the UK: from prevention and early detection to end-of-life care.

The BSI will be submitting evidence based on the recent [BSI Cancer Immunotherapies Summit](#), which was focused on new research on cancer immunotherapies and its clinical application. Some questions in the call for evidence are therefore beyond the scope of the meeting. However, by summarising the discussions of the recent Summit, and the BSI response states the priorities identified by the expert attendees, the organisation will give valuable, research-based insight to inform this important consultation. This document includes all questions in the call for evidence and the BSI's suggested responses.

Following the submission of this response, the BSI will publish a more detailed public report that summarises the Summit's discussions and makes clear recommendations focused on how the UK can drive forward cancer immunotherapy research that will translate into improved patient outcomes within the next decade.

**Deadline for submitting evidence:** 11:59pm on 29 April 2025

**Introductory questions**

## About you

**In what capacity are you responding to this survey?**

- An individual sharing my personal views and experiences
  - An individual sharing my professional views
  - On behalf of an organisation
- 

**What is the name of your organisation?**

The British Society for Immunology

**Where does your organisation operate or provide services?**

Select all that apply

- England
- Wales
- Scotland
- Northern Ireland
- The whole of the UK
- Outside of the UK

**What type of organisation are you responding on behalf of?**

- Not for profit organisation
  - Business
  - Academic institution
  - Public sector body
  - Other
-

## **Section 1: Prevention and awareness**

**Question:** Which cancer risk factors should the government and the NHS focus on to improve prevention? (Select the 3 most important risk factors)

- Alcohol
- Tobacco
- Obesity
- Physical inactivity
- UV radiation
- Air pollution
- I don't know
- Other (please specify)

Please explain your answer. (Do not include any personal information in your response. Maximum 500 words.)

### **Suggested response:**

Recommend the following 3 options:

- Other: Ageing
- Obesity
- Physical inactivity

The British Society for Immunology (BSI) recently hosted a summit bringing together experts from academia, clinical practice, industry, and patient-focused charities to discuss the priorities, opportunities, and challenges surrounding cancer immunotherapies. The focus of the summit was on research, translation, and innovation in the field of cancer immunotherapy, acknowledging the rapidly evolving landscape of treatments and the need for collaboration across sectors. As the leading immunological organisation in the UK, the BSI is uniquely positioned to provide insights and recommendations across all areas of cancer treatment with an immune element. We have carefully considered the questions in this call for evidence and have provided our responses. A comprehensive report detailing the key discussions, findings, and recommendations from the summit will be published later this year.

Based on the priorities identified by our members to improve health, to improve cancer prevention the BSI recommends that the government and NHS should prioritise the following three key risk factors, which all have an impact on immune health in addition to their strong and proven links to cancer:

- 1. Other: Ageing:** The UK population is getting older with 27% of people predicted to be over 65 by 2072, compared with 19% in 2022. Ageing is one of the most significant risk factors for developing cancer. We need to take urgent action now to improve cancer prevention strategies, specifically focusing on the mechanisms at play between ageing and cancer risk, to work to mitigate the high burden that the increased incidence of cancer diagnoses will place both on individuals and on the NHS. By understanding more about how we can keep our immune systems functioning optimally into older age and

even developing targeted therapeutics to assist with this, this will help to prevent an increase in the incidence of cancer.

- 2. Obesity:** Obesity is a growing public health concern and is linked to an increased risk of several cancers, including breast, colorectal, and endometrial cancers. Tackling obesity through improved access to healthy foods, promoting physical activity, and encouraging a healthier lifestyle across the population will be essential for cancer prevention. Public health interventions should focus on education, better nutrition, and support for weight management.
- 3. Physical Inactivity:** Physical inactivity is a major modifiable risk factor for a range of chronic conditions, including cancer. Regular physical activity can reduce the risk of developing several types of cancer. The government and NHS should focus on creating environments that encourage physical activity, such as safe public spaces for exercise and promoting active lifestyles through schools, workplaces, and communities.

By addressing these risk factors through targeted prevention programmes, the government and NHS can significantly reduce the burden of cancer – while simultaneously improving immune health – and improve overall public health outcomes.

## **Section 2: Early diagnosis**

**Question:** *What actions should the government and the NHS take to help diagnose cancer at an earlier stage? (Select the 3 actions that would have the most impact)*

- *Improve symptom awareness, address barriers to seeking help and encourage a timely response to symptoms*
- *Support timely and effective referrals from primary care (for example, GPs)*
- *Make improvements to existing cancer screening programmes, including increasing uptake*
- *Increase diagnostic test access and capacity*
- *Develop and expand interventions targeted at people most at risk of developing certain cancers*
- *Increase support for research and innovation*
- *I don't know*
- *Other (please specify)*

*Please explain your answer. (Do not include any personal information in your response. Maximum 500 words.)*

### **Suggested response:**

Recommend the following 3 options:

- Increase support for research and innovation
- Support timely and effective referrals from primary care (for example, GPs)
- Increase diagnostic test access and capacity

To improve the early diagnosis of cancer, the government and NHS should prioritise the following actions:

1. **Increase support for research and innovation:** with an ageing population and rising incidence of cancer diagnoses worldwide, there is an urgent clinical need to develop new forms of prevention; 'immunoprevention', leveraging the immune system to help prevent cancer developing, could form a vital new approach. This would require a research focus on the underlying biology of precancerous conditions to allow for target identification and biomarker discovery. The use of innovative clinical trial design would be important in bringing these interventions through in a timely manner. Emerging technologies, such as AI and cloud computing, that have already been proved to be successful at integrating multimodal data for risk stratification and can manage heavy lifting involved in developing and executing clinical trials, should be prioritised for funding. By developing reliable biomarkers to identify those at higher risk of developing cancer, we could target interventions and preventive measures much earlier, leading to a potential game changer in our ability to successfully prevent and treat cancer. In addition, improving cancer screening programmes with a focus on immune biomarkers could help identify individuals at higher risk of cancers responsive to immunotherapies. Including immune-related screening tests for high-risk groups

would allow for earlier detection of cancers that benefit from immune checkpoint inhibitors or other immune-based treatments.

2. **Increase diagnostic test access and capacity:** immune biomarkers can be crucial for targeted diagnosis and treatment, and so expanding access to immunological diagnostic tests is essential. The government and NHS should invest in increasing the capacity for advanced immune-based tests, such as tumour-infiltrating lymphocyte analysis, immune profiling, and liquid biopsy technologies, which can identify cancer earlier by detecting immune signatures or circulating tumour DNA. Increasing the availability of these tests, particularly for cancers where the immune system plays a central role, would allow for more accurate and quicker diagnoses, enabling earlier intervention with immunotherapies. Expanding access to cutting-edge immunological diagnostic technologies would reduce delays and improve treatment options by identifying the immune characteristics of the tumour early.
  
3. **Improve symptom awareness, address barriers to seeking help, and encourage a timely response to symptoms:** Early cancer diagnosis is often hindered by a lack of awareness of immune-related symptoms or the reluctance to seek medical advice. Public health campaigns should focus on educating the public about early immune-related signs of cancer, such as unusual fatigue, unexplained weight loss, or persistent inflammation, which could signal an immune response to tumour development. Raising awareness of these symptoms and encouraging timely medical consultations is critical. Additionally, addressing the stigma or fear associated with seeking help could promote earlier detection. Public health messages should encourage individuals to respond promptly to immune-related symptoms, particularly in cancers where immunotherapies are most effective at an early stage. Learned societies, such as the British Society for Immunology, and patient-focused charities could partner to deliver these messages effectively.

### **Section 3: Treatment**

**Question:** *What actions should the government and the NHS take to improve access to cancer services and the quality of cancer treatment that patients receive? (Select the 3 actions that would have the most impact)*

- *Increase treatment capacity (including workforce)*
- *Review and update treatment and management guidelines to improve pathways (processes of care) and efficiency*
- *Improve the flow and use of data to identify and address inconsistencies in care*
- *Improve treatment spaces and wards, including facilities available to carers*
- *Improve communication with patients, ensuring they have all the information they need*
- *Increase the availability of physical and mental health interventions before and during cancer treatment*
- *Increase the use of genomic (genetic) testing and other ways of supporting personalised treatment*
- *I don't know*
- *Other (please specify)*

*Please explain your answer. (Do not include any personal information in your response. Maximum 500 words.)*

### **Suggested response:**

Recommend the following 3 options:

- Increase treatment capacity (including workforce)
- Increase the use of genomic testing and other ways of supporting personalised treatment
- Review and update treatment and management guidelines to improve pathways and efficiency

The government and NHS should prioritise the following actions:

1. **Increase treatment capacity:** Delivering advanced cancer treatments, including immunotherapies, requires a skilled and well-supported workforce. To position the UK as a world leader, it is essential to strengthen capacity across the treatment pathway – from clinical oncologists and immunologists to research nurses, pharmacists, and healthcare scientists. This involves upskilling current staff in immuno-oncology, increasing the number of professionals trained in delivering and supporting immunotherapies, including managing immune-related side effects, and embedding immunology expertise within multidisciplinary teams. Medical training curricula across relevant professions should also be reviewed to ensure they remain responsive to evolving best practices. Sustained investment in workforce development and retention will be critical to meet rising demand and provide equitable, high-quality immune-based

cancer care. The NHS must shift into ‘innovation’ mode and proactively plan how to introduce new therapies more systematically, ensuring quicker, more effective roll-out once approved.

- 2. Increase the use of genomic testing and other ways of supporting personalised treatment:** Immunotherapies are most effective when tailored to the specific characteristics of a patient’s tumour and immune profile. Expanding access to genomic and immunological testing – such as tumour mutational burden, PD-L1 expression, and immune cell profiling – is essential for identifying which patients are most likely to benefit from particular treatments. Embedding immune biomarker testing into routine clinical practice will support more accurate treatment decisions and improve outcomes. The NHS Genomic Medicine Service should be leveraged to incorporate immunogenomic insights and enable personalised immune-based treatments. However, to make this approach successful, we must improve the system and the detail in patients’ clinical records. This will allow more effective personalisation in treatment strategies.
- 3. Review and update treatment and management guidelines to improve pathways and efficiency:** Current cancer care pathways and guidelines often lag behind scientific advances in immunotherapy, and UK patients frequently lack access to the latest therapies available elsewhere. To maintain the UK’s leadership, it is critical that NICE, MHRA, NHS England, and clinical guideline bodies adopt more agile processes to incorporate emerging evidence. This includes rapidly updating treatment protocols and diagnostic criteria, particularly for combination therapies and novel immune targets. Streamlined, adaptive pathways will reduce delays in access to innovative treatments and ensure the most effective immune-based therapies are available promptly across the NHS.

Improving the collection and use of real-world data and samples from immunotherapy-treated patients is vital to ongoing research and future treatment strategies. This includes enhancing the system and detail within patient clinical records. Linking clinical, molecular, and immune response data across the NHS will be crucial for understanding long-term efficacy and refining treatment approaches.

As immunotherapy evolves – particularly with cell and gene therapies – treatment infrastructure must adapt. Facilities should be upgraded to safely deliver complex immune-based therapies, with appropriate infection control and specialist support for immune-related side effects.

By prioritising workforce capacity, personalised diagnostics, and updated treatment guidelines, the UK can remain at the forefront of global efforts to harness the immune system against cancer – while ensuring all patients receive the highest quality care.

#### **Section 4: Living with and beyond cancer**

**Question:** *What can the government and the NHS do to improve the support that people diagnosed with cancer, treated for cancer, and living with and beyond cancer receive? (Select the 3 actions that would have the most impact)*

- *Provide more comprehensive, integrated and personalised support after an individual receives a cancer diagnosis and (if applicable) after treatment*
- *Improve the emotional, mental health and practical support for patients, as well as their partners, family members, children and carers*
- *Offer targeted support for specific groups, such as ethnic minority cancer patients, children and bereaved relatives*
- *Increase the number and availability of cancer co-ordinators, clinical nurse specialists and other staff who support patients*
- *Increase the support to hospice services and charities who provide care and support for patients*
- *Improve access to high-quality, supportive palliative and end-of-life care for patients with incurable cancer*
- *I don't know*
- *Other (please specify)*

*Please explain your answer. (Do not include any personal information in your response. Maximum 500 words.)*

#### **Suggested response:**

Recommend the following 3 options:

- Other: better resourcing to manage the long-term side effects of cancer treatment
- Provide more comprehensive, integrated and personalised support after diagnosis and treatment
- Increase the number and availability of cancer co-ordinators, clinical nurse specialists and other staff who support patients.

#### **1. Other: better resourcing to manage the long-term side effects of cancer treatment:**

Newer treatments, such as immunotherapies, have the potential to revolutionise cancer treatment. For example, in melanoma, the introduction of PD-1 inhibitors has significantly increased survival rates. However, these treatments, which work by manipulating the immune system, can also cause significant inflammatory and autoimmune complications, which can affect any part of the body. These side-effects can be very serious and can occur in the acute treatment phase, but some also cause life-long health problems. As more patients receive immunotherapies and survive their

cancer diagnoses, the NHS does not currently have the resources, (in terms of staff capacity or infrastructure) to manage the number of patients who need long-term care and monitoring for the long-term effects of these cancer treatments. There is an urgent need to both prioritise the resourcing available to care for these patients, but also to fund research into the next generation of immunotherapies that have increased efficacy and produce fewer acute and chronic side-effects.

- 2. Provide more comprehensive, integrated and personalised support:** People receiving immunotherapy can face unique challenges related to the nature and duration of treatment, including immune-related side effects that may not be well understood outside specialist settings. To improve outcomes, care must be better integrated across oncology, immunology, and primary care services. Personalised support should include regular immune function monitoring, access to immunology-informed advice, and pathways for managing immune-related adverse effects, which can appear long after treatment has ended. Embedding immunology expertise into multidisciplinary teams would improve the quality and consistency of aftercare for those receiving immune-based therapies.
- 3. Increase the number and availability of cancer co-ordinators, clinical nurse specialists and other staff:** Specialist support staff are key to helping patients navigate complex treatment pathways, particularly those involving advanced immunotherapies. Clinical nurse specialists trained in immunotherapy can guide patients through their treatment journey, explain immune-related side effects, and provide essential continuity of care. Increasing the number of these roles – especially in areas with lower access to innovative cancer treatments – would greatly enhance patient experience and safety, ensuring they receive appropriate support throughout their treatment and recovery. Cancer co-ordinators can also improve communication between patients and multiple specialists involved in immune-based treatment plans, reducing the burden on patients to self-manage their care.

In addition to these actions, support pathways should be co-designed with patients to reflect their diverse needs and lived experiences, particularly for immune-based therapies that may require lifelong monitoring or adjustment. Partnerships with patient-focused charities and professional societies like the British Society for Immunology can help develop resources and training to equip the workforce with the knowledge needed to support this evolving area of care.

By ensuring supportive care services are responsive to the growing use of immunotherapies, the government and NHS can help improve quality of life and outcomes for all people affected by cancer. A personalised, integrated approach that reflects the immunological dimensions of treatment will be critical as cancer care continues to evolve.

## **Section 5: Research and innovation**

**Question:** *How can the government and the NHS maximise the impact of data, research and innovation regarding cancer and cancer services? (Select the 3 actions that would have the most impact)*

- *Improve the data available to conduct research*
- *Improve patient access to clinical trials*
- *Increase research into early diagnosis*
- *Increase research into innovative treatments*
- *Increase research on rarer and less common cancers*
- *Speed up the adoption of innovative diagnostics and treatments into the NHS*
- *I don't know*
- *Other (please specify)*

*Please explain your answer. (Do not include any personal information in your response. Maximum 500 words.)*

### **Suggested response:**

Recommend the following 3 options:

- Improve patient access to clinical trials
- Increase research into innovative treatments
- Speed up the adoption of innovative diagnostics and treatments into the NHS

### **Explanation:**

Research and innovation in cancer was the primary focus of the recent BSI Cancer Immunotherapies Summit. According to experts at this meeting, to maximise the impact of data, research and innovation in cancer care, the UK must take a strategic and joined-up approach across the research-to-delivery pathway.

#### **1. Increase research into innovative treatments**

Immunotherapy and other emerging modalities have transformed outcomes for some cancers, but progress is uneven. There is an urgent need to fund the translation of research into clinical benefit, particularly in areas that use novel and diverse approaches for immunotherapies, immunotherapy-specific biomarkers, optimal dosing strategies, and novel treatment combinations. The UK has the potential to be world-leading in cancer immunotherapy clinical trial delivery working constructively with industry in innovative partnerships (e.g. the success of the NHS Cancer Vaccine Launch Pad) but we need to replicate this model across other modalities of immunotherapy. Preservation of biobanks is important, as they are a critical resource to aid future research. Rarer and harder-to-treat cancers (e.g. brain tumours and pancreatic cancers) also require dedicated support, as current investment and clinical trial infrastructure often overlook these areas. To aid these, there should be a focus on innovative stratified clinical trial design to allow research to move forward at pace. Additionally, a focus on immunoprevention rather than treatments (see answer to section 2) would potentially allow us to prevent cancer from developing.

## **2. Improve patient access to clinical trials**

Clinical trials are often the only route for patients to access cutting-edge therapies, yet access remains inconsistent and inequitable. Many patients - particularly those with rarer cancers, those treated outside research-intensive centres, and those from underserved communities – face barriers including restrictive eligibility criteria, lack of clinician awareness, and logistical challenges. Only 35% of blood cancer patients report having discussed clinical research with their care team. Embedding research into routine care, improving trial diversity, and supporting clinicians to refer into trials through education and infrastructure will have a profound impact on patient outcomes and equity. Improving the clinical records system will allow suitable patients to be identified for clinical trials quicker.

## **3. Speed up the adoption of innovative diagnostics and treatments into the NHS**

There is a huge opportunity for the UK to enable more research into the underlying biology of precancer for target identification and biomarker discovery. While the recent investment in the MANIFEST consortium is a positive step, we need to build on this momentum further.

Even when innovations are approved, many fail to reach patients in a timely or equitable way. The UK lags behind international peers in uptake of certain treatments – fewer new blood cancer therapies are available to UK patients due to economic and regulatory barriers. An agile, integrated regulatory pathway is essential to reduce delays. The NHS must transition from reactive to innovation-ready, with investment in workforce, data infrastructure, and delivery models. Proactive planning, such as preparing for bispecific antibodies, is vital. Additionally, appropriate funding for infrastructure is needed to support research and innovation.

## **Section 6: Inequalities**

*Question: In which of these areas could the government have the most impact in reducing inequalities in incidence (cases of cancer diagnosed in a specific population) and outcomes of cancer across England? (Select the 3 actions that would have the most impact)*

- *Improving prevention and reducing the risk of cancer*
- *Raising awareness of the signs and symptoms of cancer, reducing barriers and supporting timely response to symptoms*
- *Reducing inequalities in cancer screening uptake*
- *Improving earlier diagnosis of cancers across all groups*
- *Improving the access to and quality of cancer treatment*
- *Improving and achieving a more consistent experience across cancer referral, diagnosis, treatment and beyond*
- *Improving the aftercare support for cancer patients*
- *I don't know*
- *Other (please specify)*

*Please explain your answer. (Do not include any personal information in your response. Maximum 500 words.)*

### **Suggested response:**

Recommend the following 3 options:

- Improving earlier diagnosis of cancers across all groups
  - Improving access to and quality of cancer treatment
  - Other: Wider access to clinical trials
1. **Improving access to and quality of cancer treatment:** One of the most significant barriers to achieving equitable cancer outcomes is the disparity in access to cutting-edge treatments, particularly immunotherapies. Immunotherapies are often only available at major tertiary centres, leaving patients in other areas – especially those from underserved communities – at a disadvantage. To reduce these inequalities, the government must invest in expanding NHS infrastructure to deliver immunotherapies at more sites, including district general hospitals. Improved coordination between oncology and immunology services is crucial to ensure seamless care. Patients must also have consistent access to immune diagnostics, such as tumour mutational burden and PD-L1 expression, which are essential for making informed treatment decisions. Additionally, upskilling healthcare professionals working outside of specialist centres is necessary to ensure they have the resources and knowledge to deliver immunotherapies and manage associated side effects.
  2. **Improving earlier diagnosis of cancers across all groups:** Early diagnosis is critical for improving outcomes, especially for cancers that respond well to immunotherapies, such as melanoma, lung cancer, and certain blood cancers. Immunotherapies tend to

be most effective when administered early, but current diagnostic capacity varies significantly across regions and populations. The government should focus on providing equitable access to advanced diagnostic tools, such as immune biomarker testing, tumour immune profiling, and liquid biopsies. Expanding diagnostic capacity in community-based settings, particularly in underserved areas, should be a priority. Additionally, training GPs to better recognise immune-related cancer symptoms will help ensure that all communities have access to the latest diagnostic technologies, improving early detection.

- 3. Other: Wider access to clinical trial participation:** Clinical trial participation is often the only way for patients to access the latest treatments, but trials are typically limited to a small number of specialist centres. This restricts patient access to them. Furthermore, many patients are unaware of available trials; for example, only 35% of patients with blood cancer discuss clinical research with their specialist. To improve access, the government should ensure that trial designs are inclusive, with underrepresented groups able to participate, and that trials are available at more sites. Increasing awareness of clinical trials through outreach and educational initiatives will help patients make informed decisions. The UK's diverse population is a unique advantage for generating globally relevant clinical trial data.

Continued government support for translational research in immuno-oncology is critical. The UK has the potential to lead globally in cancer immunotherapy, but this leadership must be inclusive. Funding structures should mandate equity in access to research participation, immune-based diagnostics, and advanced therapies. Supporting integrated care models that include immunology expertise within multidisciplinary cancer teams, particularly in high-need areas, will help address systemic disparities.

Reducing inequalities in cancer incidence and outcomes demands a system-wide approach that ensures the benefits of immunotherapy and immune science are distributed fairly across the population. By embedding immunological innovation into early diagnosis, treatment access, and screening, the government and NHS can significantly narrow the cancer inequality gap.

## **Section 7: Priorities for the national cancer plan**

**Question:** What are the most important priorities that the national cancer plan should address?  
(Select the 3 most important priorities)

- Prevention and reducing the risk of cancer
- Raising awareness of the signs and symptoms of cancer
- Earlier diagnosis of cancer
- Improving the access to and quality of cancer treatment, including meeting the cancer waiting time standards
- Improving patient experience across cancer referral, diagnosis, treatment and beyond
- Improving the aftercare support for cancer patients
- Reducing inequalities in cancer incidence, diagnosis and treatment
- Other (please specify)

Please explain your answer. (Do not include any personal information in your response.  
Maximum 500 words.)

### **Suggested response:**

To deliver meaningful progress on cancer outcomes over the next decade, the National Cancer Plan must prioritise:

- Earlier diagnosis of cancer
- Improving access to and quality of cancer treatment
- Other: shift NHS focus to innovation to prioritise and embed a research culture across cancer care for improved patient benefit

**Other: shift NHS focus to innovation to prioritise and embed a research culture across cancer care for improved patient benefit:** By embedding a research focus across all levels of care, the NHS can accelerate the integration of cutting-edge treatments, like immunotherapies, into routine practice. This proactive approach would ensure faster access to novel therapies, foster continuous learning, and improve clinical decision-making, ultimately providing patients with the most effective, evidence-based care and helping the UK remain at the forefront of cancer treatment.

**Early diagnosis** remains the most effective strategy to improve survival rates and expand treatment options, particularly for cancers responsive to immunotherapies. However, achieving earlier diagnosis will require investment in infrastructure, diagnostics (including immune-based biomarkers), and robust integration between research and clinical services. Immune profiling and novel diagnostic technologies are already demonstrating significant potential, and accelerating their translation into NHS settings is critical.

**To improve access to high-quality treatment**, the Plan must support rapid, equitable adoption of innovative therapies, including immunotherapies, through clearer regulatory pathways, stronger workforce capacity, and better use of real-world evidence. The UK has an opportunity to lead globally in this area – building on its scientific excellence in immunology, oncology, and

data science – but only with coordinated effort across academia, the NHS, industry and government.

To successfully deliver on these priorities, the government must adopt a collaborative, cross-sector approach. Working in partnership with organisations such as the British Society for Immunology – who bring together experts in academia, clinical practice, industry, and patient advocacy – can help identify translational bottlenecks, support workforce development, and ensure that innovations reach patients faster. The BSI is well positioned to contribute to strategy development, convene expert advice, and help deliver a cancer plan that reflects the evolving immunological landscape of cancer treatment.