

# British Public Attitudes towards Cancer Research and Treatment in 2021

*Improving cancer prevention, detection and outcomes after the Covid 19 pandemic*

## Summary and Recommendations

Since early 2020 fear of Covid 19 has dominated most people's health agendas. But as vaccinations, medicines use and other public health measures bring the pandemic under better control improving cancer prevention and treatment is re-emerging as Britain's leading health priority. Fifty percent of British adults regard cancer as the non-infectious disease for which they most want better treatment for themselves and their families. Finding more effective cancer treatments is the top priority amongst all age groups. This is partly due to the fact that 4 people in 10 say their lives have been significantly changed because they or individuals important to them have had cancer.

Over 80% of the UK electorate agrees that the NHS should remain tax funded and available to everyone, regardless of their ability to pay. There is little support for alternatives like private insurance, although the 28% of people who say that 'Brexit will make it easier for Britain to fund the NHS' appear more likely than others to support increased private funding of health and social care.

At the end of May 2021 70% of British adults indicated satisfaction with NHS services. However, less than half these individuals expressed strong satisfaction. Adults aged 65 and over are more likely to say they are satisfied with NHS care than people aged under 35.

Just over a third (36%) of British adults remain confident that NHS cancer care is world-class, the same proportion as in 2019. An additional 40% believe it is likely to be as good as that anywhere else in the world once cancer has been diagnosed. Only about a fifth of adults fear that if they or a family member were to develop cancer their NHS treatment would be less than optimal. Five per cent say they think it would be of poor quality.

Three quarters (74%) of voters believe that children and young adults should get the best cancer treatments on the NHS even if government economists say they are not cost effective. Almost 9 in 10 (86%) say people over 70 have as much right to effective treatment as anyone else.

As a result of the disruption caused by the Covid 19 pandemic some 40,000 UK citizens may be living with cancers that would otherwise have been diagnosed. It can be conservatively estimated that in the order of 10,000 individuals will die of cancer significantly earlier than would have otherwise been the case because of delays in diagnosis and treatment.

Both NHS funded community health services and Local Authority social care provision are important to people living with cancer. The new £12 billion a year health and social care levy announced in September 2021 will in the period to 2025 help reduce NHS waiting lists and to a limited extent improve social care funding. However, in late May 2021 only a quarter (27%) of adults said that they are satisfied with Local Authority residential and home social care. Unlike the case with NHS services, social care satisfaction levels are lower amongst people in middle and later life than they are in individuals aged under 45.

Two thirds of UK adults expect there will either be cures for most cancers by 2050 or treatments that hold them in check indefinitely. Amongst children and people of working age cancer death rates have halved since the 1970s. Less than 10% of the British electorate doubts that cancer research will have led to further significant increases in the time people with live cancers by 2050.

There is strong public support for preventing cancers through interventions like further reducing or eliminating tobacco smoking by 2030 and for increasing rates of early diagnosis to allow more cures. Three quarters (75%) of the British electorate indicate that they will want to be tested every two years or so when single blood tests for circulating cancer DNA strands become available.

About quarter of the UK population say they are hesitant about taking part in cancer testing. Such individuals are also more likely than expected to be hesitant about accepting NHS recommended vaccines and to say that climate change is not a threat to humanity. If public interests in science based health policies are to be protected the factors underlying such attitudes require empathetic understanding.

Anti-cancer medicines of all types cost between 0.1% and 0.2% of UK GDP in 2019. Total NHS spending on pharmaceuticals as a proportion of health spending is moderate in international terms. However, public views on medicine costs are divided. People are uncertain about established NHS cost controls, despite evidence that they have delivered relatively low spending. Voters do not wish the NHS to spend more than necessary on medicines but a majority (62%) also want British public interests in research and industrial development to be defended.

Support for patent protection as a mechanism for funding research rose from 43% in April 2019 to 51% in May 2021, with 32% opposing it. Seven in every ten British adults agree with the statement *'taking everything I know into account I think research based pharmaceutical companies make an important positive contribution to society.'*

A majority (60%) of Britons accept that stopping the suffering and death caused by cancer is one of the most important things that humanity can hope to achieve by the 2050s. But there is limited support for providing cancer treatments to poor nations via aid programmes or at prices lower than those the NHS pays. The UK could radically reduce its cancer related mortality by 2050. But global control of cancer is unlikely to be achievable this century without collaborative efforts involving both governmental agencies and world-wide research based pharmaceutical companies.

## *Cancer policy recommendations*

UK policy makers face the challenge of bringing the Covid 19 pandemic to an effective end while reducing NHS waiting lists and diagnostic delays. The public expects to see better British cancer and other health outcomes. This will require increasing health and social care funding in politically acceptable ways while fostering academic and industrial developments that advance oncology and grow the nation's life science capacities and earnings. As judged by the findings of research into British public attitudes, experiences and expectations conducted as part of this UCL Cancer Policy Project, key opportunities include:

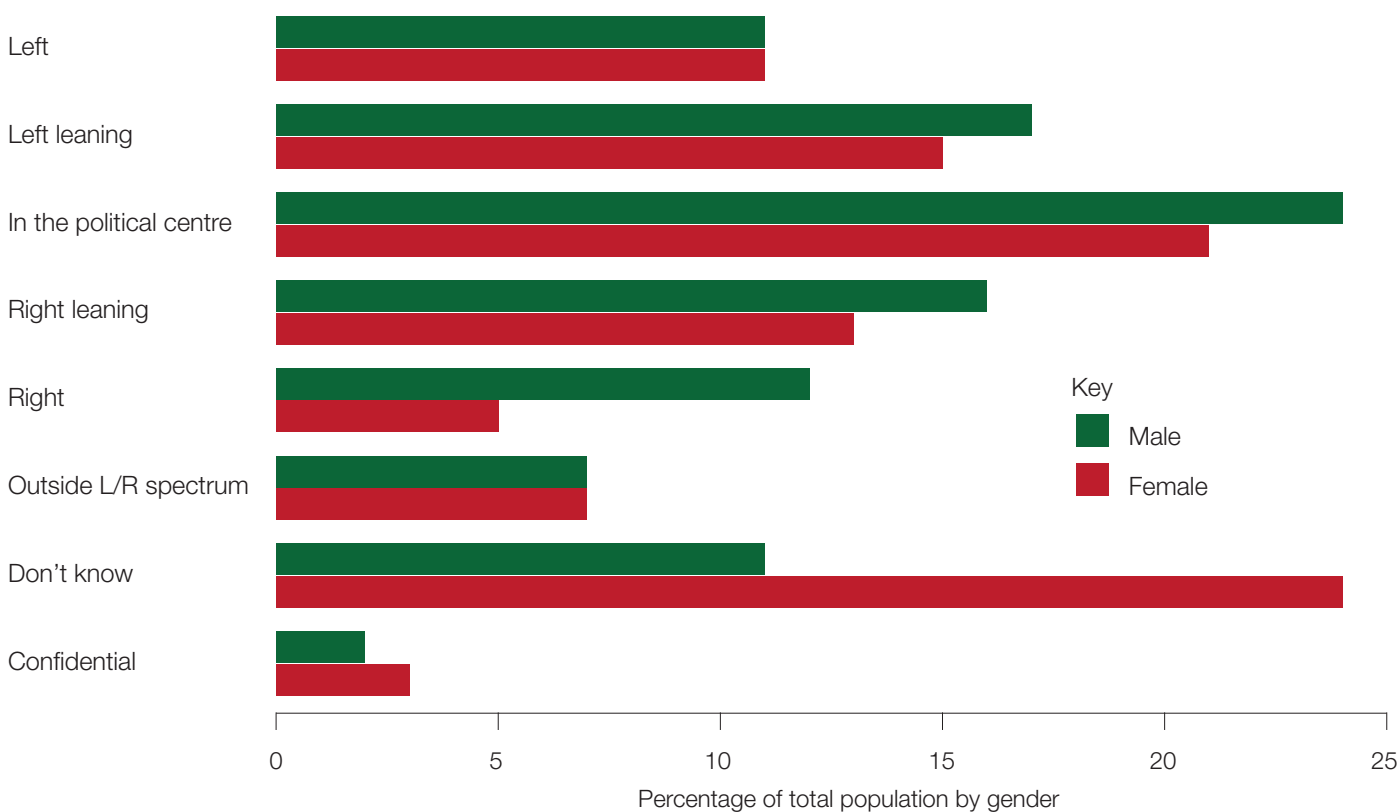
- ***commissioning critical independent reviews of the utility of health economics in British health and wider public policy decision making and the successes and failures to date of UK cancer service improvement planning***, prior to the publication of revised cancer strategies for the UK nations to cover the period 2025-35;
- ***identifying viable ways of further reducing tobacco smoking***, with the objective of effectively eliminating the habit throughout the UK by the start of the 2030s;
- ***surpassing the target of identifying 75% of all cancers at stages 1 and 2 by the end of the 2020s***. Ways of achieving this range from funding the timely establishment of Community Diagnostic Hubs in England and similar facilities elsewhere in the UK to accelerating the introduction of innovative case finding and targeted screening technologies for lung and other cancers. It will also require changing the culture of the NHS to adequately value relationship based primary care, encourage the reporting of 'minor' symptoms and stop NHS service users and professionals being unfairly blamed for late cancer diagnoses; and
- ***strengthening health service users' rights*** to the most effective surgical, radiological, pharmaceutical and other therapies at all stages of their cancer care, and ensuring that NHS oncologists and other clinicians have sufficient professional freedom to permit them to provide optimal individual treatment. There should be professionally controlled ways of publicly reporting when this has not been possible because of economic or other restraints.

## Introduction

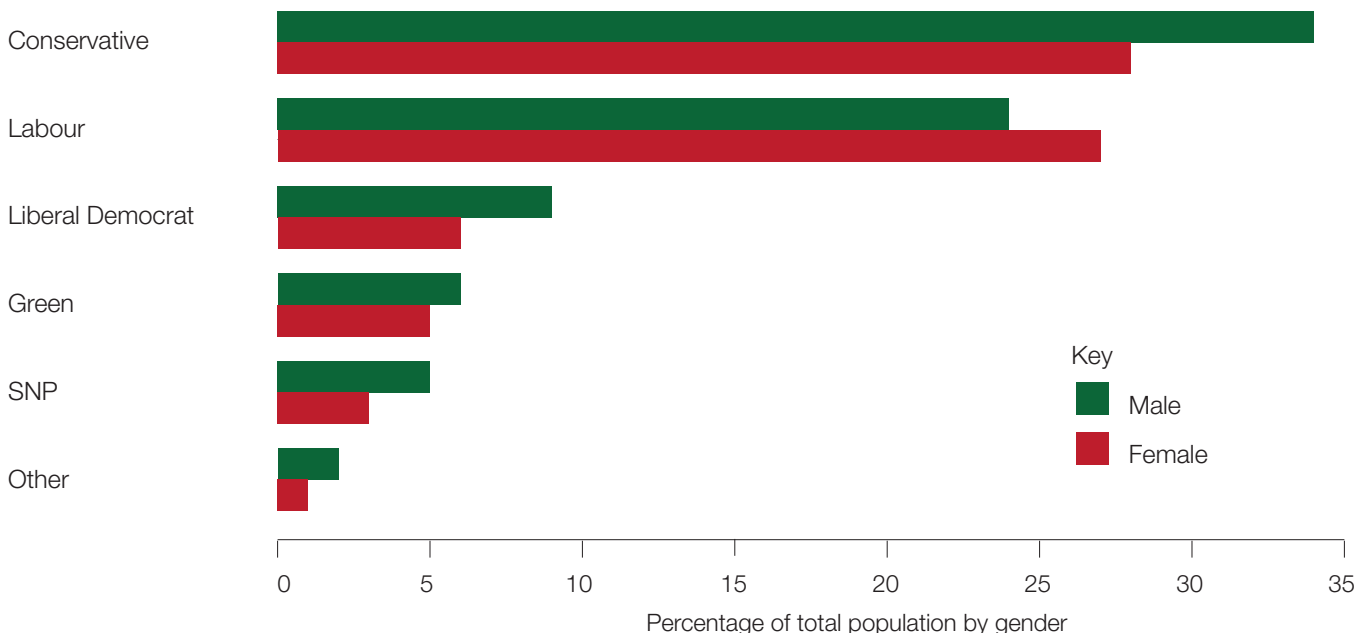
This report presents the results of the second UCL School of Pharmacy Cancer Policy Project survey on British public attitudes towards cancer research and treatment. Fieldwork was conducted online amongst 2,096 adults aged 18 and over between May 21st and May 23rd 2021 on behalf of UCL by the research consultancy Yonder (formerly Populus). As with the original survey undertaken in April 2019 a sample was randomly selected from a bank of approaching 170,000 UK residents held by Yonder. This was subsequently weighted to make it representative of the overall population demographically and in terms of social grading.

Figures 1 and 2 provide data about the political orientation and voting intentions of those involved in the survey. These data are valuable from a policy analysis perspective. Twenty seven percent judged themselves to be on the political 'left' as opposed to 23% on the 'right'. The remainder included individuals identifying as centralists (22%); those saying their views do not align with the conventional left/right spectrum (7%); and individuals who did not know where to place themselves (18%) or preferred not to say (3%). People aged under 35 are significantly more likely than the population as a whole to locate on the left. The reverse is true for those aged 55 years and over. Respondents aged 35-44 can be

**Figure 1. Respondents' left/right political orientations (May 2021)**



**Figure 2. Respondents' voting intentions (May 2021)**



seen as transitional in that they are more likely than others to say that their views lie outside the conventional left/right political spectrum.

Voting behaviours are less stable than underlying political orientations. As measured by declared voting intentions the largest single UK voter group was in late May 2021 the Conservatives, with 34% of men and 28% of women saying they would vote Tory had there been an election at that time. Respondents voting Labour or Green were more likely to be aged under 35 than Conservative voters.

The objectives of this research were to assess the impacts of Covid 19 on public attitudes towards cancer research and care and explore policy issues relating to health and social care funding and delivery arising from the pandemic and other contemporary events. Topics of special interest included:

- beliefs about cancer prevention and early detection;
- attitudes towards the development of late stage cancer treatments and their provision to patients of differing ages; and
- the perceived acceptability of using patents and allied intellectual property rights to fund cancer research.

The closing section of this report offers a brief overview of current UK cancer policy concerns derived in part from the 2019 and 2021 UCL Cancer Policy Project survey findings together with a structured literature review and a series of 15 semi-structured interviews conducted before the start of August 2021.

## Core findings

Support for the principle of a tax funded and universally available NHS remains high. So does the level of priority given by the public to developing and delivering more effective cancer treatments. The Covid 19 pandemic and the personal tragedies and collective costs it has caused is a powerful reminder of the importance of guarding against infections, which historically were the main cause of death in all societies. But underlying this emergency the burden of illness generated by non-communicable diseases like cancers and cardio-vascular disorders is increasing, in line with population ageing.

This survey's results reflect this reality. The continuing processes of demographic and associated health and care transition are generating new demands in community settings, alongside hopes for enhanced cancer prevention and more effective treatments for both early and later stage diseases. The key challenge facing health policy makers is to fund these emergent needs in affordable and socially acceptable ways.

Another important finding is that in overall terms only a quarter (27%) of respondents agreed with the positively framed statement *'speaking from my experience or that of people I know well, I am satisfied with social care services*

*provided by local authorities.'* This compares with seven out of ten agreeing with a similarly worded statement about NHS provided health services. As described later, older individuals are markedly more likely to indicate dissatisfaction with local authority care than younger adults. A reverse trend exists for health care. Such observations have important implications for individuals and families in need of social care because they are living with cancer.

As the UK seeks to recover from the impacts of the local Covid 19 epidemic and the wider global pandemic political leaders and the people they serve will also have to accommodate the effects Brexit on the country's economy and workforce. Further decisions relating to investing in public and private research and pursuing the population's long term interests in industrial and scientific development must be made. Part of this process will centre on questions about how much should be spent by the NHS on innovative treatments. At one level it may seem that public interests will best be served by driving down the amounts paid to the lowest levels possible, regardless of any other concerns. But around half the population also accepts that this would not be consistent with seeking longer term goals like minimising the time taken to develop radically more effective therapies for cancers and other diseases which are not as yet curable.

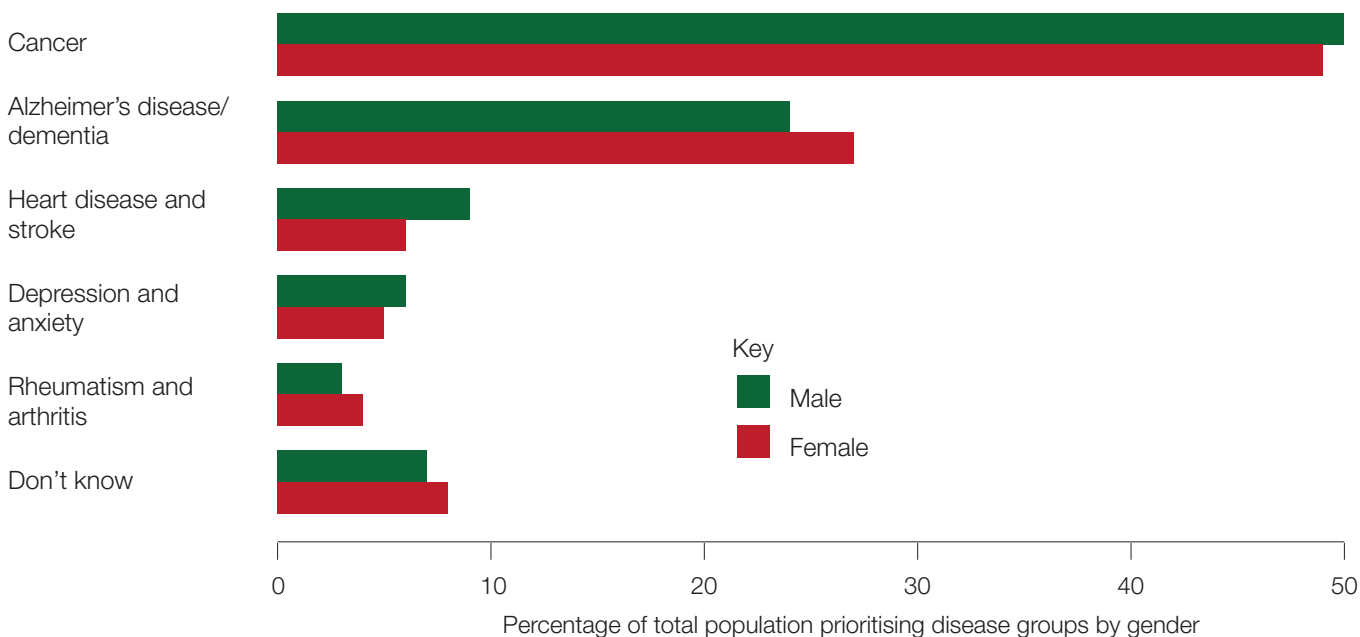
## Cancer and the UK Public's Health Improvement Priorities

As in 2019, the 2021 British Public Attitudes to Cancer Research and Care survey started by asking *'if a new vaccine or drug could protect you and your family members from one of the following types of illness throughout life, which group of illnesses would you want it to be for?'* The choices sited included heart disease and stroke, anxiety and depression, rheumatism and arthritis, Alzheimer's disease/dementia and cancers. The pattern revealed in Figure 3 is very close to that that observed in 2019. Fifty percent of all respondents indicated that improving protection against cancer is their highest priority, although Figure 4 shows that as individuals age the perceived importance of gaining protection from dementias rises.

There are statistically significant links between being in social grades A and B, voting Conservative and wishing for better dementia treatments, albeit enhancing cancer protection is the main public priority right across the political and age spectrums. Anxiety and depression present a contrasting pattern. The relatively small group of adults ranking protection from these linked forms of mental distress as their most important priority tend to be younger and to self-identify as 'left'.

Figures 5 and 6 offer additional information about respondents' personal experiences of cancer and their beliefs about the importance of better treatments. About 80 per cent of today's population have had cancer or, much more commonly, have had a close family member or friend who developed cancer. Around 40 per cent of all adults

**Figure 3. Non-communicable disease groups from which members of the UK public most want protection for themselves and their families (May 2021)**



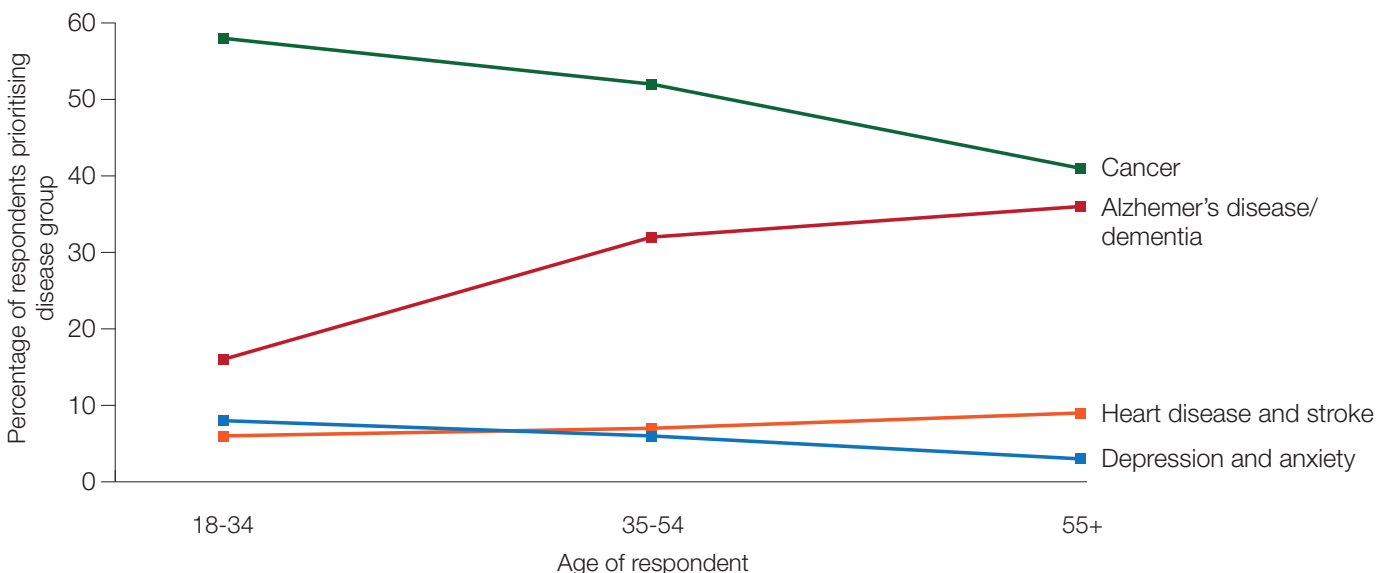
say that the impacts of cancer on their families and others they know have significantly changed their lives. People in this group are more likely than others to rate improving protection from cancer as their principle priority. The extent of cancer's role in defining the biographies of so many individuals helps explain the priority given to improving its treatment and care by the British electorate.

There are also significant statistical associations (see Box 1) between expressing high levels of concern about children and young adults being at risk from cancer, wanting younger NHS patients to have access to the best possible cancer treatments even when Government economists say they are not cost effective, believing that people aged 70 and over have as much right to effective cancer treatment

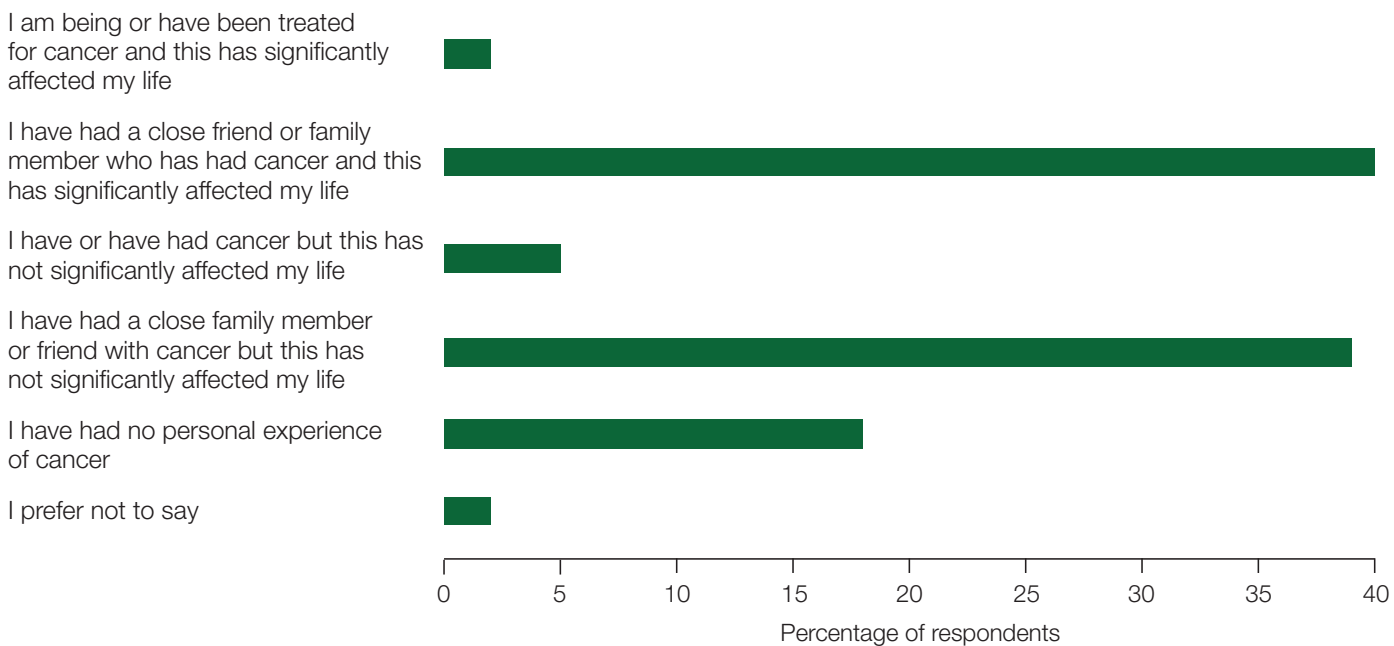
as anyone else and agreeing with the statement 'stopping the world-wide suffering and premature death caused by cancer is for me personally one of the most important things humanity can hope to achieve by the 2050s'.

It can be argued from a public health perspective that there is no reason to regard suffering caused by cancer as inherently more concerning than deaths or morbidity resulting from other causes. Continuing to improve treatment outcomes for all conditions through investing in research and better care is a desirable goal. However, research and development priorities ought in part be guided by the extent of the scientific opportunity available in given fields at particular times, as well as by factors such as the scale and of unmet needs being experienced.

**Figure 4. Disease protection preferences by age**



**Figure 5. Respondents' relationships with cancer (May 2021)**



The evidence presented here underlines the degree of distress caused by cancer amongst not only immediately affected individuals but also their parents, children, siblings and friends. British child and young adult cancer death rates have halved since the start of the 1970s. Yet public demand for further improving cancer treatment access

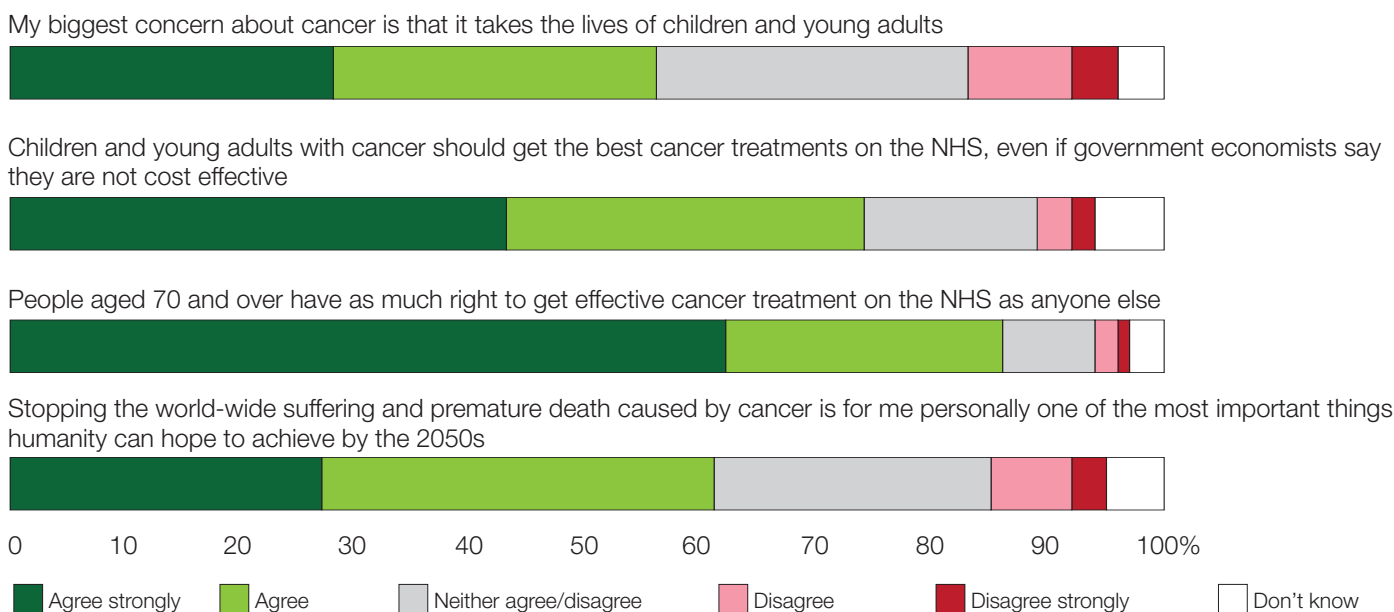
and outcomes across all age groups remains strong and the fact that more than 4 in 5 UK adults agree with the statement 'people aged 70 or over have as much right to get effective cancer treatment on the NHS as anyone else' can be seen as an important signpost to future expectations.

**Box 1. Statistical Methods**

The statistical analyses undertaken during the preparation of this report were performed with SPSS version 25, applying the socio-demographic weightings provided by Yonder. An alpha level of 0.05 was used to determine statistical significance. Associations between different Likert-scale rated survey items (coded from 1=strongly disagree to 5=strongly agree) were explored using Pearson

correlations. "Don't know" responses were excluded from all quantitative analyses involving Likert scale items. Differences between various groups (e.g. social grades) were examined by employing ANOVAs (using Bonferroni correction for multiple comparisons) between group T-tests or Chi-square tests as appropriate

**Figure 6. Cancer care related beliefs and concerns (May 2021)**



## Covid 19's Impacts

Since January 2020 the Covid 19 pandemic has required the urgent attention of policy makers, health professionals and members of the public throughout the world. Inevitably, the resources available for the detection and treatment of cancers and all other forms illness have as a result been limited. Precise data on the consequences of this do not exist. But in England they have included delaying surgical and other interventions, as well as reducing access to and take up of diagnostic testing. Overall NHS waiting lists rose to over 5 million by mid-2021, which is approaching a million (25%) more than the 2019 average and double the level recorded in 2014. The available evidence indicates that waiting list sizes will continue to increase into 2022 and that at present significant numbers of people are living in pain and other forms of distress with no immediate prospect of being able to access appropriate NHS treatment. Some are as a result seeking private care.

With regard to cancer, the numbers of emergency referrals by GPs fell significantly from March 2020. Across the UK there were by early to mid-2021 some 40,000 fewer individuals diagnosed as living with the disease than expected (The Lancet Oncology, 2021) There is also evidence that the proportion of cancers being diagnosed early (that is, at stages 1 and 2) has fallen and there are some fears that the survival of cancer patients affected by Covid 19 in the UK during the last 12-18 months may have compared poorly with the rates achieved in some EU countries (Pinato et al, 2021).

Estimates of the increased cancer mortality and other harm that diagnostic and therapeutic delays due to the pandemic will ultimately lead to during and after the 2020s vary between sources. Qualitative research conducted during this study suggests that local care providers believe problems facing them will prove more difficult to resolve

than national level planners and managers hope will be the case. In order of magnitude terms it can conservatively be estimated on the basis of events to date that in the UK around 10,000 people will die of cancer significantly earlier than would have been so had the Covid 19 pandemic not occurred. A worst case figure could prove to be several times greater (Sullivan, 2021).

Predictions also vary as to the amount of time it will take after the acute phase of the Covid 19 control task ends for health and social care systems to work though waiting list backlogs while supporting individuals left with long term problems associated with the infection. From an oncology perspective full national recovery should arguably involve raising British cancer survival rates to above the levels being achieved in 2019 and resuming previous improvement trends. This may be possible by or before the mid-2020s, although the data needed to prove definitively that this point has been reached is unlikely to be available until near the start of the 2030s.

Against this background a degree of ambiguity in public attitudes towards Covid 19's impacts on NHS cancer care was found during this survey. Figure 7 shows that over 60 per cent of respondents thought that the effects of the Covid 19 pandemic will undermine health service quality for several more years. Yet at the same time the data displayed in Figure 8 reveal that public confidence in NHS cancer treatment and care as compared to that available elsewhere was undiminished in May 2021, as compared with the level recorded in April 2019.

About a quarter (24%) of respondents expressed fear that the NHS would not consistently provide them or members of their family optimally effective treatments should they develop cancer or would at worst provide poor care. This is indicative of significant concerns which require attention. But against this just over a third (36%) said they believe

**Figure 7. Beliefs about Covid 19's impacts on cancer care (May 2021)**

I think that the impacts of the Covid 19 pandemic will significantly undermine the quality of NHS cancer treatment and care for several more years



I think the impacts of the Covid 19 pandemic on NHS cancer care are being exaggerated and that services will probably be back to normal next year



During the last year the threat of catching Covid 19 took my mind off longer term problems like the possibility of developing cancer



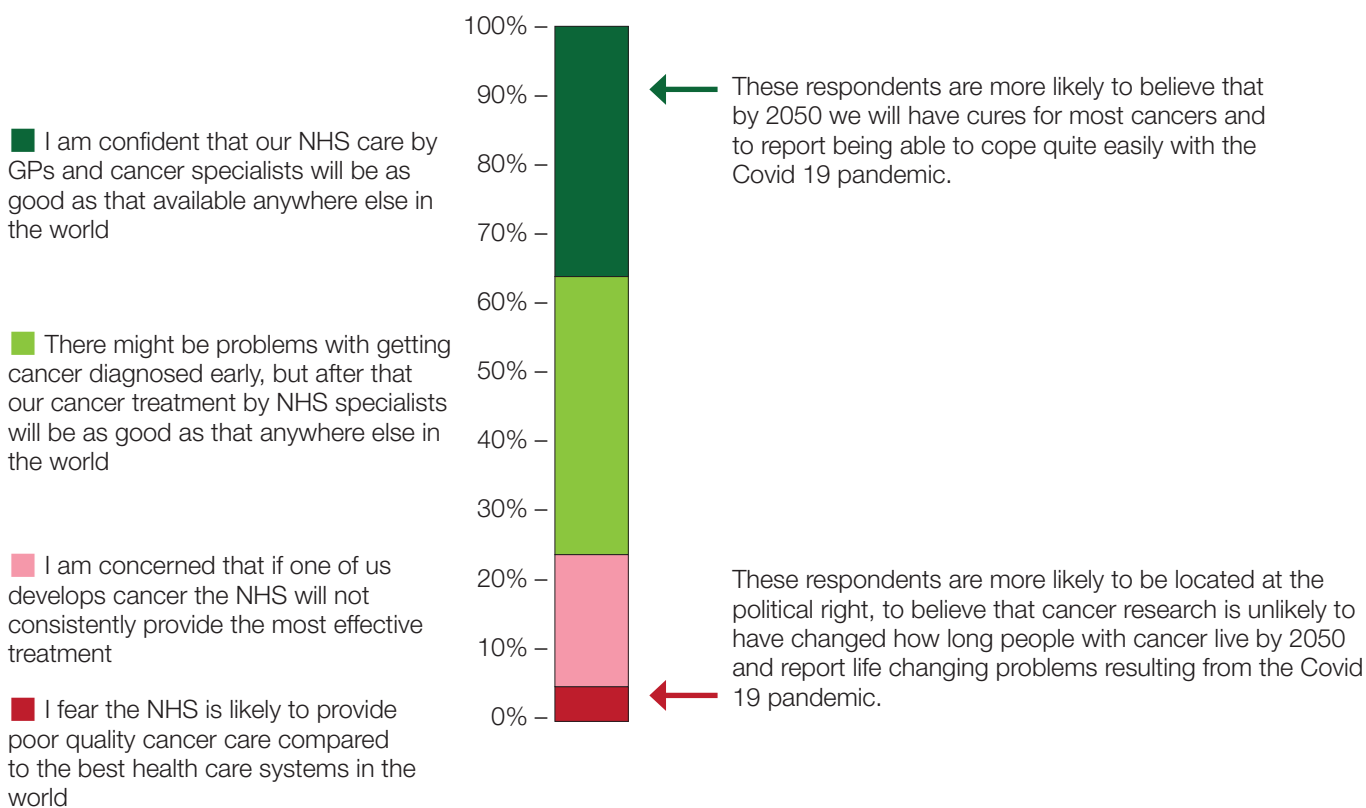
During the Covid 19 lockdowns I became more worried about the possibility of developing cancer



0 10 20 30 40 50 60 70 80 90 100%

Agree strongly Agree Neither agree/disagree Disagree Disagree strongly Don't know

**Figure 8. Perceptions of NHS cancer care quality in May 2021**



that NHS cancer care provided by both GPs and specialists is likely to be as good as that available anywhere else in the world. Another 40% said that although there may be problems with early detection they thought that after the diagnostic stage NHS cancer care is likely to be as good as that available anywhere else in the world.

Individuals aged 60 and over and those in more advantaged groups (traditionally defined as classes A, B and C1) were significantly more likely to take this last view than others participating in the survey. Middle aged individuals and those classified as being in social grades D and E are more likely to doubt the quality of cancer care available to them and their families.

The data collected also suggest that confidence in the NHS cancer services available is higher in localities such as South East England than it is in, for example, the South West and that:

- the 17% of individuals who said they think the impacts of Covid 19 on NHS cancer care are being exaggerated and that it will probably be back to normal in 2022 were significantly more likely than others to accept that Brexit will make it easier to fund the NHS and to say that global warming is not a serious threat to humanity. The data also suggest that they are less likely than other respondents to support increasing taxes to fund greater spending on health and/or social care. The strength of this and related correlations should not be exaggerated. Yet such opinion clustering deserves further investigation, not least because of the light it might throw on political policy formation in the next two to three years; and

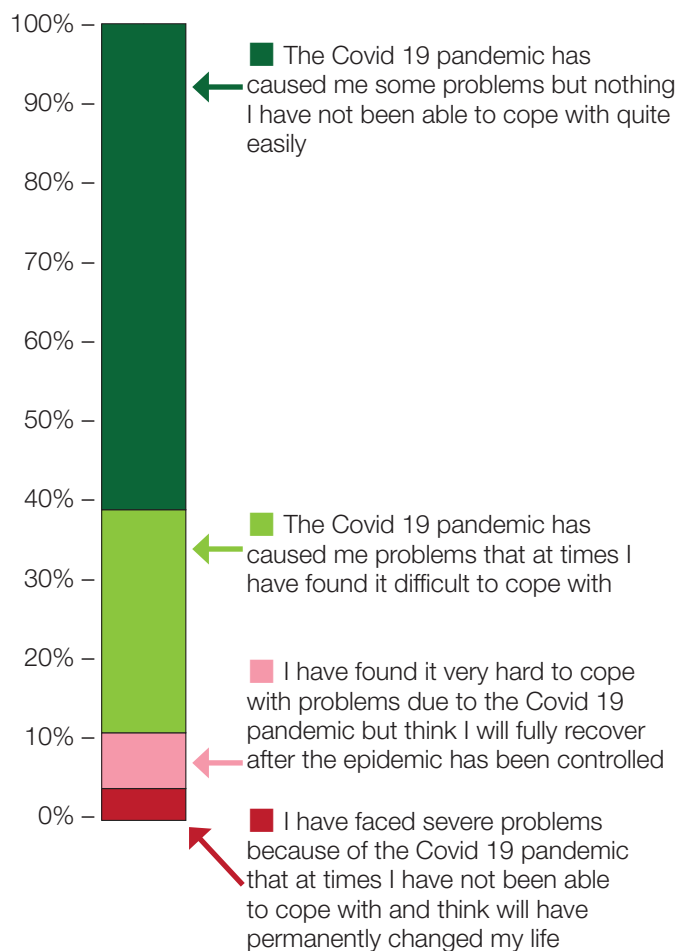
- a minority (5%) of respondents said they think the NHS is likely to provide poor quality cancer care for them or members of their families compared to that available from the world's best providers. Respondents in this group were also more likely than others to believe that cancer research will not lead to significantly better treatments by the 2050s. They were in addition more likely than the population as a whole to say that they were very severely affected by problems associated with the Covid 19 pandemic. Once again, the factors underlying such correlations require empathetic understanding.

Regarding the impacts of Covid 19 on respondents' lives, Figure 9 shows that just over 6 in 10 (62%) said that although the UK epidemic has generated some problems for them they have been able to cope quite easily. This is most likely to reflect the self-reported experience of older individuals living in relatively comfortable settings. Respondents aged under 60 were statistically more likely to report encountering greater levels of difficulty.

An unwillingness amongst some in later life to admit fears of being unable to cope may to a degree account for this skew. Even so, these data, along with other observations, indicate that problems linked to employment, child care, disruption to education and reduced opportunities for supportive social contact have (unsurprisingly) been most stressful for younger individuals living in less advantaged circumstances. This survey's findings – which are consistent with those of detailed research conducted by agencies such as the UCL Centre for Longitudinal Studies (see CLS, 2021) – also suggest that people living with cancers and their after effects will have experienced greater difficulties than their disease-free peers.



**Figure 9. Experiences of living with Covid 19 2020-21**



Finally, significantly more people thought that during the 2020/21 lockdowns coping with immediate threat of contracting Covid 19 reduced their awareness of the possibility of their developing a cancer in future, as compared with the number that said they had become more worried about developing cancer. This is again in line with other research observations (Quinn-Scoggins et al, 2021). It implies that during the Covid recovery phases the country is expected to go through during and after 2022 an enhanced public health effort should be directed towards (re)generating ‘front of mind’ awareness of the benefits of early cancer diagnosis.

## Cancer Prevention and Early Detection

Past research (Taylor and Heller, 2019) showed that a majority (80%) of people say that if they develop a malignancy they would like it to be detected as early as possible in order to optimise the chances of effective treatment. Yet attempts to improve primary and secondary prevention have often proved controversial. Part of the inherent problem with primary prevention (defined as stopping cancers from developing in the first place) is that it is not normally possible to identify individuals who have been saved from having cancer by health promotion programmes. In such circumstances many men and women tend to focus on the

short term costs of curbing pleasurable behaviours such as drinking alcohol or eating to excess, even when they know that they are linked to long term hazards.

In theory up to a third of cancers occurring in the UK could be preventable via measures like stopping tobacco smoking and reducing obesity rates, avoiding sun burn and related skin damage and preventing exposures to known carcinogens (Cancer Research UK, 2021). Vaccination against diseases like Hepatitis B and HPV together with screening to identify pre-cancers (for example, colonic polyps) provide other forms of primary prevention, as might the prophylactic use of some medicines.

The data in Figure 10 show that there is relatively strong support for the proposal that Britain should aim to stop all tobacco smoking by 2030. Only 14% of respondents (a proportion that in overall population terms represents some 7 million adults in the UK) expressed active disagreement with this policy option. This total is the same as the overall number of British smokers recorded in 2019. (For comparison, 20% of the UK population smoked tobacco in 2010.) From a political perspective it is significant that about two thirds (63%) of potential voters agree with this option, regardless of which party they would vote for and whether or not they say they are right wing, left wing or centralists. However, people in social grades A and B are significantly more likely to think that the UK should aim to stop all tobacco smoking than those placed in social grade E.

By contrast, responses to the statement ‘it is not the government’s business to spend public money campaigning against obesity’ were evenly split. Broadly speaking, just over a third of respondents agreed with this view. A slightly larger proportion disagreed, with the remainder saying they are neutral on this issue or don’t know. Yet only 26% of those on the left agreed with this statement, while 52% actively disagreed. Amongst those self-identifying as being on the political right 41% agreed that it is not the Government’s business to campaign against obesity while 39% disagreed.

When attitudes towards this topic are analysed by voting intention there is a less marked skew – Conservative and Labour voters responded similarly. Some of the policy implications of these mixed findings on public attitudes towards the State’s responsibility to reduce obesity rates are discussed at the end of this report. There is no doubt that in most prosperous countries obesity is a cause of multiple forms of illness, including more than one cancer in every twenty in modern Britain. This proportion is rising. But establishing healthier eating and drinking habits and enabling weight control is a much more complex and sensitive task than that of stopping smoking.

Turning to secondary prevention (defined as diagnosing and treating disease before serious harm is caused) there is strong public interest in improved testing for early stage cancers. Many health professionals are concerned about the possibility of harm caused by unnecessary medical interventions or false reassurance. But this survey found that

**Figure 10. Attitudes towards cancer prevention and early diagnosis**

The UK should aim to stop all tobacco smoking by 2030



It is not the government's business to spend public money campaigning against obesity



If new Community Diagnostic Hubs are needed to improve early cancer diagnosis rates funding for them should be allocated as an urgent NHS priority



If a single blood test for multiple types of early stage cancer becomes available I will want to be tested every couple of years or so, despite the possibility of false diagnosis scares



I am hesitant about taking part cancer testing because of what might be found and extending the suffering it might cause me and my family



I am hesitant about accepting NHS recommended vaccinations because of the risks



We should spend more on preventing cancer and treating early stage disease and less on treating cancers that cannot be cured



I would welcome more telephone and computer consultations with GPs and fewer face to face consultations



I worry about bothering my GP with minor health problems



0 10 20 30 40 50 60 70 80 90 100%

Agree strongly
  Agree
  Neither agree/disagree
  Disagree
  Disagree strongly
  Don't know

a majority of the public want access to new technologies such as those for identifying DNA or other cancer markers circulating in the blood, assuming they can offer a reasonably reliable means of identifying treatable disease. There is expert opinion that 'liquid biopsy' approaches will relatively soon become central to cancer prevention, detection and/or management (TOTT, 2021; Badshah, 2021).

There is also a high level of potential support for investment in local Community Diagnostic Hubs (CDHs – see Box 2) capable of rapidly undertaking GP initiated testing for possible cancers and other conditions at risk of delayed diagnosis. Cancer policy pioneers have been calling for such primary care facilities since the start of this century (Hamilton, 2021). At present the public lacks information about why current NHS diagnostic resources are inadequate. But the data presented here indicate that if sustained effort were put into communicating the case for accelerating the funding of CDHs it would from a political perspective be difficult to delay taking action, even during a period of limited GDP growth.

Statistically, individuals who support investment in CDHs are not only more likely than other respondents to want enhanced testing for early stage cancer for themselves. They also tend to support increased spending on health and social care and providing better pay for groups like nurses and social care workers. Such views positively correlate with recognising the value to society of research based pharmaceutical companies. They are negatively associated with statements like 'global warming is not a significant threat to humanity' or expressing hesitancy about taking NHS recommended vaccines. Being reluctant to accept some or all immunisations links positively with being hesitant about testing for early stage cancers.

Those most likely to share such doubts tend to be young (peak rates of self-reported vaccine hesitancy occur amongst people in their late teens and 20s) and from ethnic minority backgrounds. It is of course the case that younger people are at much lower risk from conditions such as cancer and infections like Covid 19 than older individuals. Nevertheless, the psychological and social factors that can

lead to fatalism, threat denial and distrust of science-based health and other policy interventions will almost certainly require more attention in the coming decade.

Finally, respondents who said that they *'would welcome more telephone and computer consultations with GPs and fewer face to face consultations'* were likely to be aged under as opposed to over 50 and to be from relatively advantaged backgrounds. Perhaps because of their age, they were more likely to have prioritised enhancing protection from anxiety and depression than other respondents. People at both distal ends of the left/right political spectrum were also more likely than those nearer the centre to be supportive of increasing the proportion of telephone and online GP consultations.

The primary care and cancer policy implications of these observations, together with the fact that a majority of people in the UK from all age groups, social grades and political clusters say that they worry about bothering their GPs with minor problems, are again discussed towards the end of

## Box 2. Community Diagnostic Hubs

Community Diagnostic Hubs can be described 'one stop shops' located away from hospitals, functioning as primary care centric diagnostic resources. Their purpose is to permit patients to receive testing close to their homes in a co-ordinated way, with a minimum of avoidable delays and needless repeat visits. It is envisaged that CDHs will be set up in locations such as high streets or retail parks. They will if adequately equipped and staffed increase rates of accurate and timely diagnosis with potentially life-saving consequences (Hamilton, 2021). They will also improve the quality of day-to-day hospital care by reducing pressures on facilities like, for instance, endoscopy suites.

Following the publication of the *NHS Long Term Plan* Professor Sir Mike Richards was commissioned to review the provision of diagnostic services in England. The recommendations of his independent report, *Diagnostics: Recovery and Renewal* (2020) should benefit not only people at risk of harm from cancers but also improve the detection of vascular conditions and a range of less common disorders. In addition to proposing that people ought to be able to give blood samples in their local communities on at least six days a week, the Richards report's key recommendations included:

- separating emergency and elective diagnostic service provision in order to avoid problems like the provision of elective care being 'swamped' by acute/urgent care needs;
- doubling CT scanning capacity over the five years to 2026 to meet increasing demand and to match provision in other leading countries;
- increasing the numbers of NHS personnel trained to undertake screening colonoscopies; and
- enhancing the NHS workforce available in England by at least 2,000 additional radiologists and 4,000 radiographers, along with other support staff

this report. The objective of increasing the percentage of cancers diagnosed early (at stages 1 and 2) to 75% by the late 2020s will not be achieved if people are reluctant or unable to tell their doctors about what may or may not prove to be symptoms of 'trivial' complaints.

More resources will be needed to increase early diagnosis rates. Yet despite the level of support shown for the statement *'we should spend more on preventing cancer and treating early stage disease and less on treating cancers that cannot be cured'* there would be political dangers and practical problems to be faced if the public were to come to believe that prevention and early cancer diagnosis is being promoted at the expense of NHS care for people with life threatening illnesses.

## Valuing and Funding the NHS

Support for a tax funded and universally available National Health Service remains robust amongst adults of all ages and social backgrounds. Six in 10 respondents strongly agreed that *'the NHS should remain tax funded and available equally to everyone, regardless of their ability to pay'*. A further two in 10 said they slightly agreed. Alongside these observations, Figure 11 provides evidence that there is very limited public support for increasing reliance on private health insurance.

As in 2019, fewer than 20 per cent of those taking part in the 2021 survey agreed with the statement *'in future people should pay for their own private health insurance because the UK cannot keep increasing taxes to fund the NHS.'* The minority inclined towards this view tend to be in their 20s and 30s, more likely to be living in London than other regions and to say they believe that *'Brexit will make it easier for Britain to fund the NHS'*. Precisely what the latter statement (which paraphrases a slogan deployed at the time of the 2016 referendum on leaving the EU) may be taken to mean by different groups requires further research.

Individuals who favour greater reliance on private insurance are more likely than the average respondent to oppose free access to social care and less likely to say that individuals aged over 70 are as entitled to effective anticancer treatment as anyone else. Their responses in addition suggest that they were more likely than others to report increased levels of worry about developing cancer during the Covid 19 lockdowns. Taken together with other variables this may reflect differences in the ways people respond to messages about collective as opposed to personal threat. Those who feel neglected by or separate from the societies in which they and their peers live may be less inclined than others to respond to 'common interest' or 'trust us' messages and more likely to adopt 'me first' positions. This is relevant to issues such as motivating individuals to accept non-pharmaceutical public health measures as well as immunisations and/or cancer tests – see Box 3 .

There is greater – but still moderate – support for the idea that UK citizens should be able to volunteer to make extra National Insurance contributions which could be used to

## Figure 11. Attitudes towards NHS funding and quality

The NHS should remain tax funded and available equally to everyone, regardless of their ability to pay



In future people should pay for their own private health insurance because the UK cannot keep increasing taxes to fund the NHS



People should be able to buy extra national insurance so that they can enhance NHS cancer care if they want to



A weakness of tax as opposed to insurance funded care is that politicians promise better services but do not want to put up taxes



I am confident that NHS radiology services for diagnosing and treating cancers are as well-equipped as those provided by the German and French health care systems



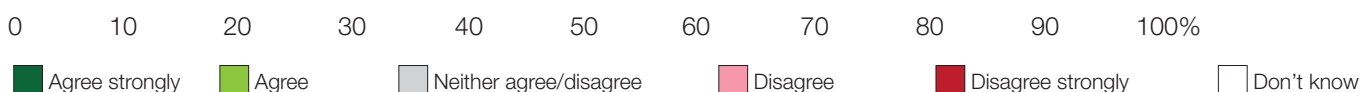
The proportion of UK national income being spent on health care should be increased even if this increases taxes I have to pay by £10 a week by 2023



I believe that increasing the pay of NHS nurses who treat conditions like cancer is an important priority for British voters



Speaking from my experience or that of people I know well I am satisfied with health services provided by the NHS



'top up' the quality of NHS cancer care available. Just under half (46%) of respondents indicated support for this option. It was evenly spread across age groups and social classes and there was in this context no significant difference between those saying they intend to vote Labour, Conservative or Liberal Democrat. Yet over a third of those identifying as being on the left of the political spectrum actively disagreed with the statement 'people should be able to buy extra National Insurance so that they can enhance NHS cancer care if they want to'. This was twice the proportion of 'right wingers' actively disagreeing. Other points linked to Figure 11 include:

- across the UK up to one person in two accepts that a weakness of tax funded systems is that although politicians may promise world class public services they can be unwilling to raise taxes to pay for improvements. Only one respondent in twenty actively disagreed with this view. It implies that health systems funded via social insurance as opposed to overt taxation may be less subject to centrally imposed 'efficiency seeking' cost pressures than the NHS, albeit the latter's services should be more evenly available than those resourced by private insurance systems that are not legally obliged to provide equitable care;

- the test statement 'I am confident that NHS radiology services for diagnosing and treating cancers are as well-equipped as those provided by the German and French health care systems' was intended to probe public knowledge of this and related fields. Only 13% of those surveyed actively disagreed. Given there is evidence (OECD, 2019) that shows that the availability of resources like CT and MRI scanners is relatively poor in the UK (Box 4) such data might to a degree reflect an unwillingness of people who trust and approve of the NHS to question the quality of the care it provides. They more certainly serve as a reminder that most members of the public lack the information available to those directly involved in health care decision making. This can on occasions make communities vulnerable to misleading arguments about issues such as what therapies cannot or should not be afforded; and
- some 70% of the UK public agrees that increasing the pay of NHS cancer nurses is an important priority for their fellow voters. A similar proportion of respondents were satisfied with NHS provided health services in May 2021, albeit only 28% expressed strong agreement with this last view. At the same time only a little over 50% of those surveyed agreed with statement 'the proportion of

### Box 3. The Psychological Drivers of Health Related Attitudes

In cultures like that of the UK it is regarded as desirable that people should be free to hold and express their own attitudes and beliefs, even if these conflict with those of individuals and groups in power. Plurality can contribute to beneficial policy changes and social developments. Yet in areas such as health care or environmental protection promoting ideas and behaviours that run contrary to established scientific evidence risk causing harm. Policy makers have a responsibility to understand how and why 'toxic attitudes' evolve and adopt strategies that contain them without generating other forms of damage.

On occasions corporate bodies, domestic political interests or governments may seek to influence health related beliefs in non-evidence based ways to protect vested interests and/or gain commercial or geopolitical advantage. But psychological characteristics can also be critically important in forming beliefs about behaviours such as smoking, drinking sugary or alcoholic beverages, becoming overweight or choosing to accept or reject screening tests or pharmaceuticals like statins or Covid or other vaccines.

In the case of vaccine confidence, hesitancy and rejection relevant factors range from religious beliefs and teachings and their implications about how best to live through to the level of trust people have in governments and the health professionals with whom they are in contact. One 24 nation study (Hornsey et al, 2018) found that anti-vaccination attitudes are highest amongst people who:

- **display high levels of conspiratorial thinking**, defined as believing that events are the result of plots by hidden groups of powerful actors, despite there being no evidence of this being the case. The causes

of conspiratorial thinking may range from learned or idiopathic cognitive deficits to a need for emotional security in what might otherwise be an intolerably uncertain or inexplicable world;

- **are high in reactance**, meaning that they respond unusually strongly when they feel others are threatening their personal choices and freedoms. This can in part be linked to childhood or adult experiences associated with feelings of powerlessness, injustice and loss;
- **report disgust toward blood and needles**; and
- **have strongly individualistic and/or hierarchical world views**. These tend to stress the rights and needs of individuals as opposed to all members of society and to encourage beliefs that it is right that material possessions, social status and even health should be distributed unequally. Such attitudes may be linked to judgementally oriented socialisation processes coupled with reinforcing experiences in adulthood.

From the cancer prevention, detection and treatment perspectives these observations should not be taken to imply that individuals expressing challenging views or behaviours should not be listened to with care. This research is predicated on the view that delivering good quality health services demands trust generation via an empathetic understanding of service users' attitudes and requirements rather than blaming them for poor health outcomes. But at a policy level it is also important to understand and try to remedy social conditions and influences which foster unscientific beliefs and promote choices harmful to public health.

*UK national income being spent on health care should be increased even if this increases taxes I have to pay by £10 a week by 2023*'. Such observations reflect tensions between the UK electorate's wish for well-funded public services and tax payers' desires to limit costs.

There is a strong statistical association between individuals reporting that they are on the political left and expressing support for paying more taxes to fund the NHS. Yet age and voting intention oriented analyses did not reveal significant attitudinal differences. In line with earlier observations, those favouring increased taxation to provide extra health care funding are less likely than others to express vaccine hesitancy or to say that climate warming is not a threat to humanity than those opposing additional taxation.

Respondents supporting higher tax (as opposed to private payment) generated health service funding were also significantly more likely than others to favour British aid money being used to fund cancer care improvements in regions like sub-Saharan Africa; to say that pharmaceutical companies should supply anticancer medicines to poor

communities at much lower prices than the NHS pays; and to agree that it is important to invest in reducing cancer related mortality inequalities in Britain. People in social grades A and B appear more prepared to pay an extra £10 a week more tax in order to fund better NHS services than members of less advantaged groups. One reason for this is that such a sum would be more affordable to individuals with high earnings than to those on low incomes.

### Dissatisfaction with Local Authority Social Care

In the past cancer was not a major cause of long term disability requiring non-medical personal and social care. The period between diagnosis and death was frequently short and even when this was not the case those with cancers were often able to live independently until the disease reached an advanced stage. Yet today the number of people surviving with cancer and the after-effects of its treatment who require not only NHS community care but also Local Authority residential care or community support is increasing.

#### Box 4. Access to Diagnostic and Therapeutic Radiology

Following the discovery by Wilhelm Röntgen of X rays in the 1890s, radiography and radiotherapy have for over a century made important contributions to the diagnosis and treatment of cancers. British scientists played significant parts in the development of technologies such as computed tomography and conformal radiation therapy. There is hope that current developments in AI augmented radiography will generate further improvements in cancer outcomes during and after the 2020s.

In the early stages of the Covid 19 pandemic radiotherapy activity fell significantly (Spencer et al, 2021). But the NHS's use of hypofractionated regimens (involving decreased numbers of treatment sessions employing relatively high radiation doses) now appears greater than before the pandemic. In some instances radiotherapy has compensated for reduced surgical activity.

However, there are concerns about levels of investment in radiological equipment such as, for instance, MRI Scanners in the UK as compared with countries such as Germany (Richards et al 2018, OECD 2019). There are also significant shortages of radiologists and allied professionals in the UK – see, for instance, RCR 2020. These problems were acknowledged in the joint Cancer Research UK and NHS England report *A Vision for Radiotherapy 2014-24* (Samuel and Boon, 2014) and more recently in documents like the NHS Long Term Plan. Associated initiatives have sought to accelerate

the adoption of new forms of radiotherapy and correct workforce shortfalls.

Regional provider networks have now been established in order to make the best use of limited resources and there has been a concerted NHS effort to update ageing linear accelerators. Significant efforts have also been made to improve access to stereotactic ablative radiotherapy (SABR, a highly focused form of radiation therapy utilising multi-angle beam delivery) and establish a UK based Proton Beam Therapy service. This treatment is now available at two main NHS sites, the Christie NHS Trust Manchester and UCLH in London.

Such successes deserve recognition. But they fall short of the root and branch transformation that the 10 year *Vision for Radiotherapy* set out. Long standing challenges relating to growing and upskilling the radiological workforce, the provision of diagnostic imaging and the delivery of 'conventional' photon therapy remain. Around 25% of NHS radiologist positions continue to be unfilled and uptake of training positions is low. Qualitative interviews also suggest that when in the recent past useful developments occurred they were in the main driven by the local circumstances created by the Covid 19 pandemic, as opposed to higher level commissioning-led change. Such observations could help inform future national approaches to further enhancing access to diagnostic and therapeutic radiology in CDHs and other settings.

There have also since 2010 been significant declines in the resources available to fund Local Authority services. It can be argued that since the early 1970s LA social care responsibilities have expanded relative to those of NHS community providers. Yet the funding of LA social care as distinct from NHS community services has remained largely dependent on payments made directly by those receiving such support. Only when reduced to poverty are they entitled to public funding, at which point their care often becomes subsidised by other service users paying from their own pockets.

Factors involved in such trends range from the development since the 1960s of social work as a hierarchically managed professional function subject to local political control as distinct from being within the 'NHS umbrella' through to a widespread lack of public understanding of the differing social care systems in England, Scotland and the other UK nations. People are often unaware of the extent of their entitlements to home and residential support until they or their relatives are in urgent need. Attitudes might also be influenced by the fact that while health care subject to medical authority is commonly seen as something everyone requires, seeking social care may be regarded as associated with an individual inability to cope with life. Resultant biases could have contributed to service weaknesses and distorted funding strategies.

Figure 12 provides data relevant to social care provision. Acceptance of the view *'I believe that increasing the pay*

*of social care workers supporting people with long-term illnesses and disabilities is an important priority for British voters'* more or less equalled that recorded for the similar statement on NHS cancer nurses in Figure 11. Yet in total just 27% of respondents agreed with the positively framed statement that *'speaking from my experience or that of people I know well I am satisfied with social care services provided by Local Authorities'*. This compares with a 70% satisfaction level reported for NHS provided services.

Unlike the case with health care, concern about the quality of Local Authority social care rises significantly with age - see Figure 13. Forty five percent of people aged 55 and over actively indicated they are dissatisfied. However, in May 2021 support for existing LA social care provisions was higher than average amongst respondents living in London and Scotland; amongst members of ethnic minorities; and in those who self-locate to the right of the political spectrum. Individuals and groups that tend to oppose increased public spending might be expected to deny the need for changes that could lead to greater outlays on services. Yet those who say they will vote for the Conservatives (and the Liberal Democrats or the Greens) appear more actively dissatisfied with the quality of Local Authority social care than Labour voters.

There are complex public policy issues to be addressed throughout the UK with regard to social care funding and quality. Past research has highlighted the fact that resolving them may require raising public expenditure by around £8-10 billion a year in England alone (Charlesworth et al, 2021).

**Figure 12. Beliefs about social care funding and quality**

I believe that increasing the pay of social care workers supporting people with long term illnesses and disabilities is an important priority for British voters



Speaking from my experience or that of people I know well I am satisfied with social care services provided by local authorities



People who need to go into residential care should not have to sell their family homes or spend their savings in order to pay for their care



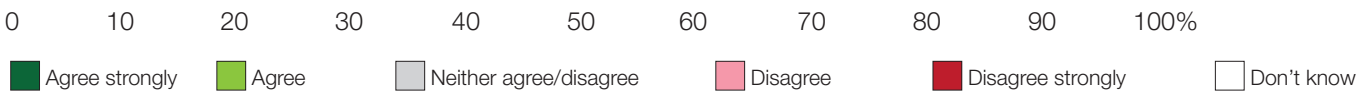
People living with illnesses and disabilities should have free access to high quality social care to help them go on living in their own homes



It is fair that people who have the money should pay for their own residential care when they need it



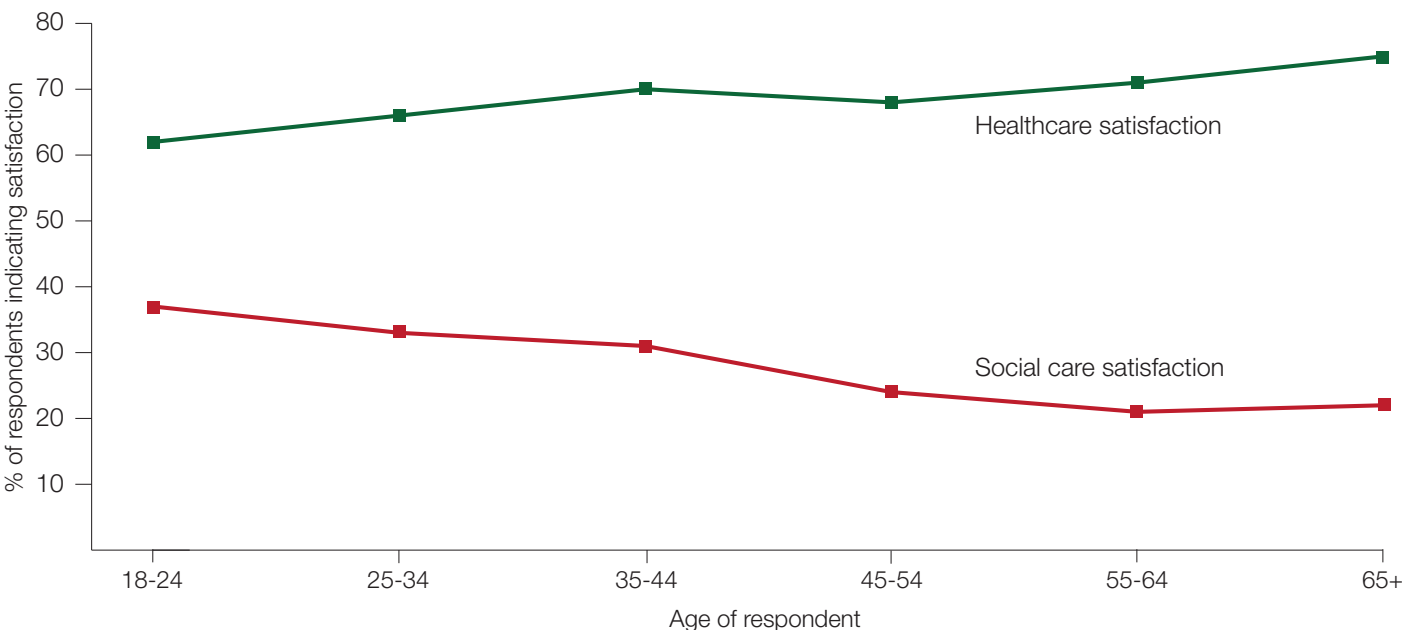
It is fair that people who have property or savings should pay for care to help them go on living in their own homes when they need it



The recent (September 2021) Johnson administration decision to introduce a £12 billion per annum ‘health and social care levy’ linked to the National Insurance scheme (which was initially established in 1912 and expanded by the Labour government in 1948) should go some way to relieving existing health and social care funding shortfalls. But further structural reforms and tax increases may be needed to fully alleviate the public discontent this survey found exists with social care in the aftermath of the Covid 19 pandemic, which had major impacts on care home residents and frail individuals.

The findings illustrated in Figure 12 also highlight the fact that a majority of the UK public believe that those in need of residential care because of conditions such as illness and frailty in old age should not have to sell their houses to pay for it. There is marginally stronger – 79% – support for the provision of free social care to allow people to stay living in their own homes. Yet only a minority of UK adults actively disagree with the suggestion that it is fair to expect people who have property and/or other resources to make payments for the social care they receive. Members of classes A and B were more likely to accept this than

**Figure 13. Health (NHS) and social care (local authority) service satisfaction by age (May 2021)**



other respondents, perhaps because they often hold wealth in forms additional to their houses. This observation has significant implications for how in a 'property owning democracy' social care entitlements should be set and spending on home as opposed to residential social care balanced.

## Paying for Cancer Research and Treatments

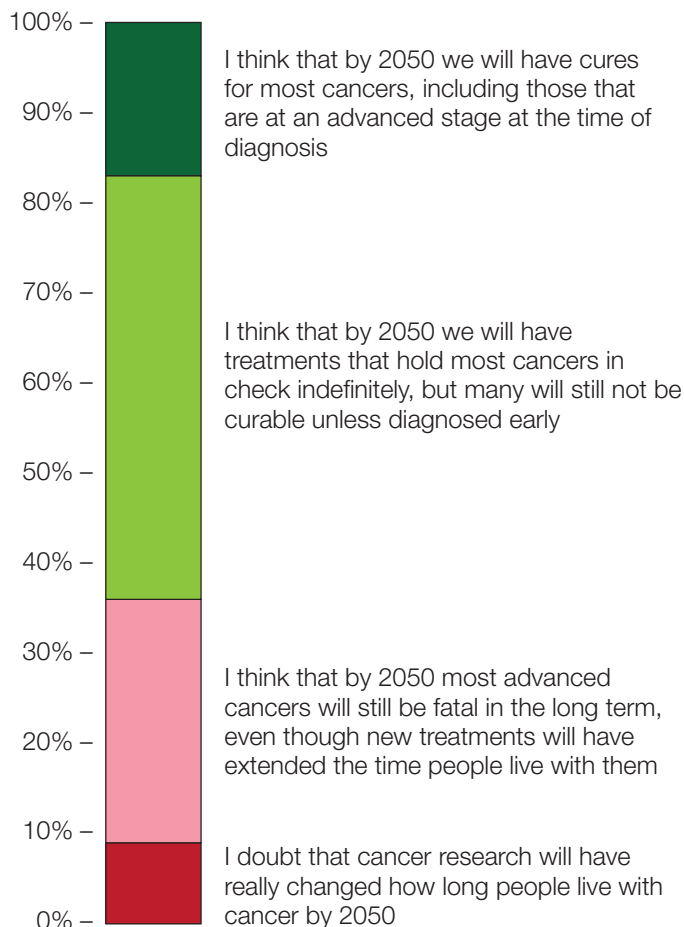
The coronavirus pandemic and the responses it has invoked highlight the value of timely medicines and vaccine research, development, production and supply. Because of its transmissibility and lethality the world has accepted the control of Covid 19 as a vital task. For individuals and families affected by cancers and other non-infectious diseases – who over the course of the 2020s alone will greatly outnumber those killed or permanently harmed by Covid 19 – improving their treatment outcomes is also an urgent goal. But the lack of perceived universal threat associated with diseases that cannot be 'caught' means that achieving further progress against cancer may not be given the same political priority as coping with a pandemic, despite the fact that far more is spent on developing cancer treatments than on communicable disease research.

Figure 14 shows that – in line with the 2019 British Public Attitudes towards Cancer Research and Treatment survey findings - 65% of the UK public remain hopeful that by 2050 most cancers will either be curable or treatable in ways that hold them in check indefinitely, even when they are diagnosed at later stages. Some 70% of respondents in social grades A and B took this view, compared with 59% in grades D and E.

Achieving such progress will demand risk-taking expenditures. There are three main streams of cancer research and development funding – direct State investment via grants and institutional funding programmes; charitable contributions; and investments made for commercial return. The latter include forms of State and charitable spending but are predominately made by research based pharmaceutical companies, that typically use money derived from the sale of existing medicines, vaccines and allied items to health care providers and the public. Intellectual property rights (IPRs) such as patents are commonly seen as being needed to support the financial viability of private companies. But they also help assure the incomes of many public and charitable research agencies.

Figure 15 presents data on attitudes towards patenting innovative medicines and their purchasing by the NHS. Since April 2019 support for the use of IPRs to fund research appears to have strengthened. In May 2021 51% of respondents agreed with the statement 'I support patent protection for new anti-cancer medicines because it funds further research in ways that help drive innovation through market competition', with 15% of the sample population expressing strong acceptance of this view. Only 43% agreed with this statement in 2019. Regarding the counter

**Figure 14. Respondents' expectations regarding progress in cancer treatment by 2050 (May 2021)**



statement 'I oppose patent protection for new anti-cancer drugs because it increases their cost' 32% of those taking part in the survey agreed while 23% actively disagreed.

Taking into account the numbers of neutral responses and 'don't knows', such observations indicate moderate majority support for granting IPRs patents to enable the current generation of novel treatments to provide revenues that will help fund the next improved therapies. Citizens' juries or other more discursive investigative techniques would be needed to gain a higher resolution understanding of public views in this field. However, the information available shows that those supportive of patenting are on average older than those who oppose it. 'Patent supporters' are also more likely than 'patent opposers' to be centrists or on the political right and tend to be in more advantaged social positions.

They are also relatively unlikely to report being members of ethnic minorities. Patent supporters tend to believe that the NHS should pay anti-cancer treatment prices sufficient to encourage industrial development and that are as high as those paid in other leading countries such as Germany. Such views are linked to positive beliefs about future British prosperity being dependent on success in sectors such as the research based pharmaceutical industry and a desire to develop better science-based ways of preventing and treating disorders like cancers.



**Figure 15. Attitudes towards paying for cancer research and treatments**

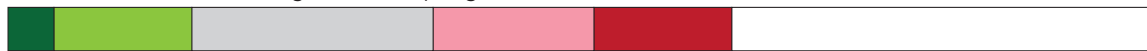
I support patent protection for new anti-cancer medicines because it funds further research in ways that help drive innovation through market competition



I oppose patent protection for new anti-cancer drugs because it increases their cost



The cost of anticancer drugs is bankrupting the NHS



The NHS should pay as much for new cancer medicines as is paid in other leading countries like France and Germany



The NHS should pay prices for new medicines that are high enough to encourage industrial development and investment in better treatments



The NHS should obtain new medicines at the lowest possible cost, regardless of concerns about research funding or investing in UK industry



Without patient groups that campaign for better treatments politicians cannot be trusted to spend enough on better treatments for rare cancers and older people



0 10 20 30 40 50 60 70 80 90 100%

Agree strongly Agree Neither agree/disagree Disagree Disagree strongly Don't know

It can be argued that support for the research based pharmaceutical industry's current business model is dependent on rational calculation rather than emotion, both with respect to its highly regulated financial and marketing activities and trust in the biological mechanisms responsible for the actions of its products. Yet in fields as sensitive as health care and cancer treatment simplistic assumptions about public attitudes towards issues like the cost and value of new treatments and questions like how they should be supplied to poor communities should be avoided. It is of note, for example, that despite apparent support for planned industrial development strategies around a half of all respondents also agreed that *'the NHS should obtain medicines at the lowest possible cost, regardless of concerns about research funding or investing in UK industry.'* As with granting patents, older people are more likely to be more supportive of this statement than those aged below 50.

With regard to the statement *'the cost of anti-cancer drugs is bankrupting the NHS'* just 16% of the 2021 sample indicated agreement, compared with 26% actively disagreeing. The equivalent figures for 2019 were 23% agreeing and 19% disagreeing. This shift might be a faint signal of a trend towards greater public recognition of the affordability of anti-cancer medicines. However, in both 2019 and 2021 58% of respondents said that they were either neutral on this topic or did not know what to think. This is robust

evidence of a lack of public knowledge and understanding that arguably needs correction. As is discussed later, anti-cancer medicines in fact account – net of discounts – for no more than 2% of NHS outlays, or between 0.1 and 0.2% of UK GDP in 2019.

The 2019 UCL Cancer Policy Project research found that a majority of people in the UK would not trust pharmaceutical companies to act in the public interest without effective regulatory systems in place. This survey offers additional evidence that politicians and politically controlled agencies are not consistently trusted to protect the best interests of minorities or other vulnerable groups in the absence of checks and balances. Six respondents in ten (60%) accepted that without patient groups that campaign for better treatments, politicians cannot be trusted to spend enough on new therapies for rare cancers and older people. This compared with 5% of respondents disagreeing. In May 2021 support for this view was strongest amongst people on the left. It was relatively weak amongst those intending to vote Conservative.

**Figure 16. Supplying better cancer treatments in poor countries**

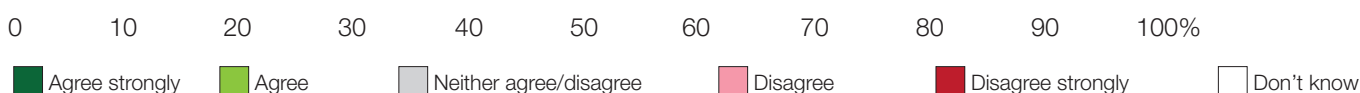
Anti-cancer medicines should be supplied by pharmaceutical companies to poor countries at much lower prices than those that the NHS pays



I support British taxpayers funding cancer care improvements in poor regions such as sub-Saharan Africa



Medicine and vaccine patents should only apply in rich countries like the UK and the US – companies in countries like India should be free to copy new treatments as they wish



## Supplying Less Developed Countries

Questions about providing anti-cancer treatments to poor communities at lower prices than those charged in countries like the UK will become more important in global policy terms as the effectiveness of therapies improves, service user expectations rise and the populations of developing nations age. As Figure 16 shows, the 2021 survey contained three test statements relating to accessing and funding cancer therapies in economically less advantaged countries. In total 42% of respondents accepted 'I support British taxpayers funding cancer care improvements in poor regions such as sub-Saharan Africa'. This compares with 26% disagreeing. Likewise, 42% also agreed that companies should supply anti-cancer treatments to poor countries at prices below those paid by the NHS. In this instance only 21% disagreed.

By contrast, just 28% of respondents supported the positively framed statement 'medicine and vaccine patents should only apply in rich countries like the UK and the US – companies in countries like India should be free to copy new treatments as they wish.' Marginally more – 29% of the overall sample – said they disagreed. UK public backing for such action is very limited. Younger individuals positioned to the left of the political spectrum and members of ethnic minorities are most supportive of Britain directly or indirectly facilitating the supply of low cost anti-cancer treatments to poor communities. There are strong positive correlations between responses to each of the three statements in Figure 16. Yet while social class/grade A and B respondents were significantly more likely to favour taxpayer funded aid programmes and pharmaceutical companies supplying at low prices than members of other socio-economic groups, this shift is not present with the less popular proposal to confine patent protection to prosperous communities.

Individuals who support providing anti-cancer medicines at reduced costs in 'poor world' settings are more likely than others to agree that stopping the harm caused by cancers is one of the most important things that could be achieved by the 2050s and to be concerned with reducing health inequalities in the UK. They are unlikely to accept that Brexit

will make it easier for Britain to fund the NHS or to say that climate change is not a major threat to humanity.

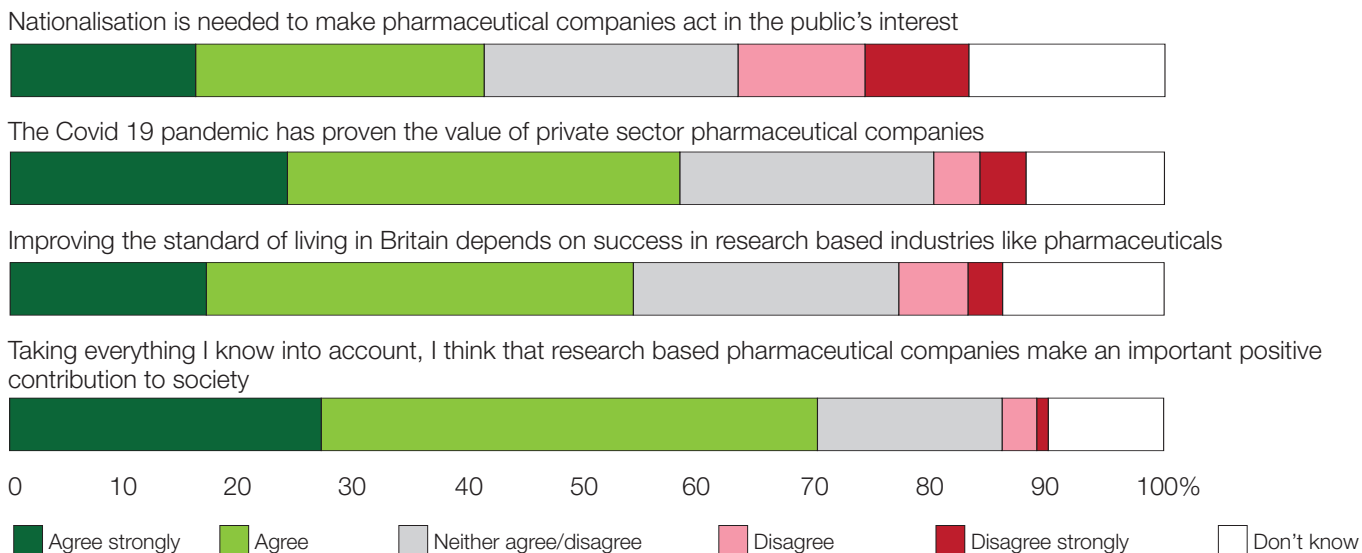
## Beliefs about the Pharmaceutical Industry

Figure 17 presents data on attitudes towards the pharmaceutical industry. Four in ten (41%) agreed with the positively framed test statement 'nationalisation is needed to make pharmaceutical companies act in the public's interest'. Two in ten actively disagreed. Yet in contrast to this 60% accepted that 'the Covid 19 pandemic has proven the value of private sector pharmaceutical companies' and over half (54%) agreed that the future prosperity of the UK depends on success in research based industries like pharmaceuticals.

Those supportive of using nationalisation (or the threat of it) to drive the pharmaceutical industry to serve public interests tend to be aged under 40, to locate themselves on the political left, intend to vote Labour, to be classified as being in social grades D and E and to be opposed to patenting. As with those supportive of providing low cost cancer treatments to poorer communities they are more likely than the average respondent to give reducing health inequalities in this country high priority and to say they believe that stopping the world-wide harm caused by cancers is one of the most important things humanity could achieve by the 2050s. They also tend towards vaccine hesitancy.

Those who think that the Covid 19 pandemic has proven the value of privately owned research based companies and that Britain needs success in the global pharmaceutical sector to remain prosperous are also more likely than the average respondent to attach high importance to stopping the suffering and premature death caused by cancers. But they view patenting positively and are oriented towards vaccine acceptance and wanting access to new blood tests for cancers. They are more likely than those who agree that nationalisation of a pharmaceutical company or companies would be beneficial to be aged over 50, to be on the right of centre and to say they intend to vote Conservative or Liberal Democrat.

**Figure 17. Attitudes towards the pharmaceutical industry (May 2021)**



Such broad outlines should not obscure the complex realities underlying why people have particular beliefs and attitudes. These relate to individuals' differing childhood and subsequent interpersonal experiences, educations, ethnicities, material interests, acquired or innate emotional preferences and intellectual and ethical judgements. Even within groups that share much of their thinking there are often subgroups with conflicting views on specific matters.

However, with regard to British public attitudes towards the research based pharmaceutical industry a final point to note is that in the 2021 survey 70% of those questioned agreed with the statement *'taking everything I know into account, I think that research based pharmaceutical companies make an important positive contribution to society.'* Over a quarter of all respondents expressed strong support for this view. Just under 60% agreed with this statement in the 2019 survey. The upwards shift to 70% in 2021 again suggests that the UK's experience of the Covid 19 pandemic has caused a significant number of people to move from neutral or critical positions towards a greater acceptance of the value of research based pharmaceutical companies and the products they supply.

## Cancer Policy Choices

As the UK seeks to recover from the Covid 19 pandemic and cope with its economic and social consequences together with those of Brexit, policy choices will have to be taken about health and social care funding and delivery. Associated questions will arise about sustaining research, promoting innovation, supporting domestic industrial development and contributing to global wellbeing. The findings outlined in Figure 18 provide information relevant to the context in which such decisions must be made and British cancer research and treatment will go on evolving.

While 28% of the May 2021 survey respondents agreed with the positive statement *'Brexit will make it easier for Britain to fund the NHS'* 29% expressed active disagreement.

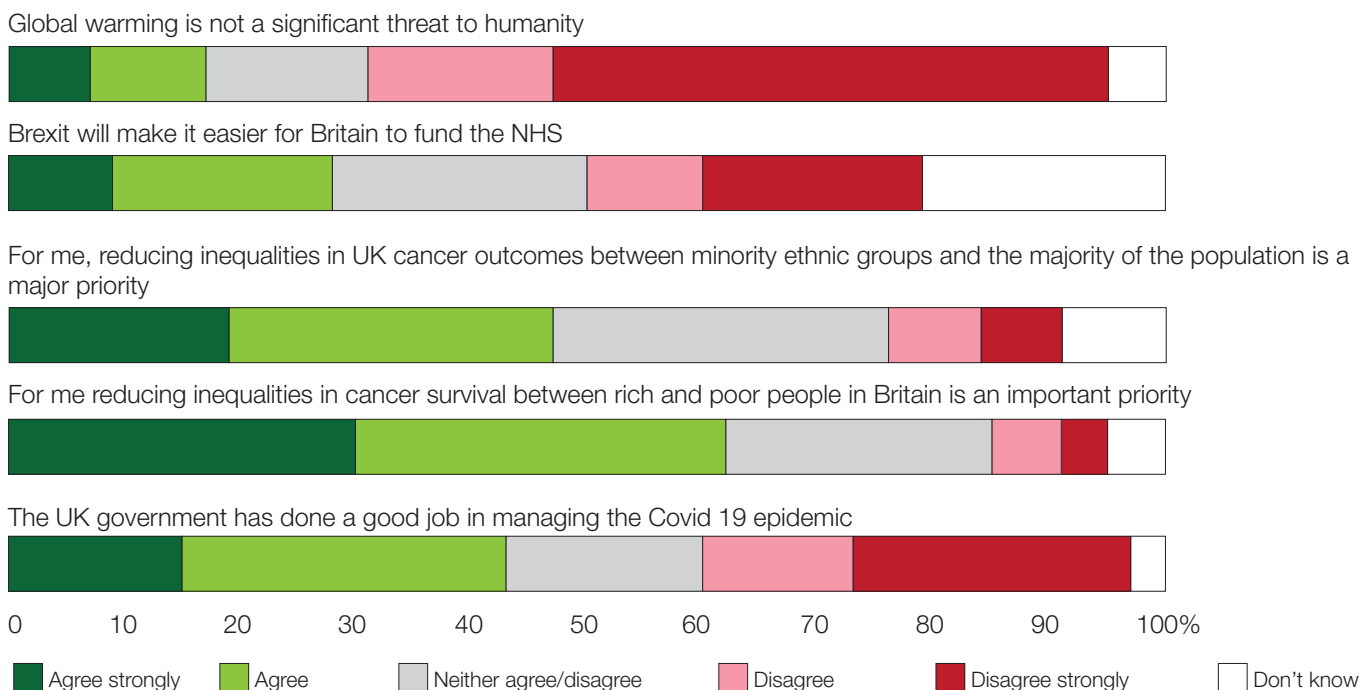
A further 43% took a neutral or undecided (don't know) stance. Such findings are indicative of continuing division and uncertainty in the Brexit context. By contrast, only 17% accepted that *'global warming is not a significant threat to humanity'*. This compares with 65% actively disagreeing.

As previously described, there are associations between responses to these statements (individuals who say Brexit will make it easier to fund the NHS are statistically more likely than others to say that global warming is not a significant threat) and those about topics such as the future role of private health insurance or increasing publicly resourced social care funding. People appearing to favour Brexit seem less inclined than its opponents to endorse increased public health and social care spending. This suggests that for some supporting Brexit was related to an underlying belief that leaving the European Union and becoming more focused on national fitness to compete globally would open the way to revised health care and related funding arrangements leading to lower taxes. Other Brexit voters anticipated a reverse direction of travel.

The key conclusion drawn here is that overall there is very limited public opposition to the Welfare State principles established in Britain during the 1940s. Most people continue to actively support tax funded universal health care. Rejection of science-based policies on issues ranging from controlling climate change to promoting vaccination and increased testing for early-stage cancers is also confined to a relatively small, albeit on occasions vocal and influential, minority. Responses about the importance of reducing health inequalities provide additional evidence of a community in which the majority believe in protecting and promoting both personal and collective wellbeing.

Against this background, the final part of this UCL School of Pharmacy Cancer Policy Project report draws on the 2019 and 2021 survey findings together with those of a literature review and 15 semi-structured interviews with policy makers and health sector professionals undertaken in the first seven

**Figure 18. Wider issues – climate change, Brexit, reducing inequalities and the UK’s performance during the Covid-19 pandemic (May 2021)**



months of 2021. It builds on previous analyses by identifying topical policy issues relevant to cancer care and population health improvement and discussing possible ways forward after the acute phases of the Covid 19 pandemic.

### Health and social care policies

In late May 2021 42% of respondents, comprised mainly of Conservative voters or others self-identified as right leaning, accepted that *‘the UK government has done a good job in managing the Covid 19 epidemic’*. A slightly smaller proportion, made up predominantly of individuals on the left of the political spectrum, actively disagreed.

The course of the pandemic in the UK during the second half of 2021 and 2022 and its impacts on care needs and the capacity of the NHS to clear waiting lists remains uncertain. But not least because of finely balanced public judgements on the Government’s Covid 19 performance to date British leaders, like many elsewhere, will be motivated to encourage the overall economy to return to as near normal working as possible well before the next general election. This will at the latest be held in May 2024. The anticipated benefits of ‘freeing’ the economy could be seen as justifying taking relatively high short-term risks, even if this were to impose some additional stresses on the NHS and/or threaten the immediate interests of some population groups.

The Health and Care Bill introduced into the Westminster Parliament July 2021 is in large part aimed at correcting the perceived weaknesses of the 2012 Health and Social Care Act. It is intended to facilitate better integrated service provision, a direction of travel that was in England set out

in the 2019 NHS Long Term Plan. In parallel with this, the 2021 Bill seeks to strengthen the central control over the NHS exercised directly by the Secretary of State for Health and Social Care in England in contexts such as approving the membership of the new Integrated Care System (ICS) Boards and influencing local decision making. This too can in part be seen as a reversal of the 2012 Act, which in England distanced day-to-day NHS management from the Department of Health and Social Care.

But this new legislation does not address the social care funding and quality concerns highlighted earlier. These are increasingly relevant to cancer survivors as well as to patients whose acute NHS care access is impeded by delays associated with inadequate social care. As noted earlier, resolving long standing problems in this field (which at root stem from the nineteenth century Poor Law divide between free medical care and means tested living support, which in England and Wales was perpetuated in the 1946 NHS and National Assistance legislation) could require public funding in England alone to be increased by up to £10 billion a year. Current social care resources are inadequate (IFS, 2021). Yet given other demands on the Treasury and the political sensitivities surrounding the idea of increasing taxes to enhance social care, increasing them has been difficult.

Some advisors may have recommended that the reform of social (and some health) care entitlements and charging policies be postponed until after 2024. However, this would have risked alienating voters from a variety of backgrounds prior to an election. The recent decision to add a 1.25% health and social care levy to the National Insurance payments made by employers and wage earners might in time serve

as a step towards funding NHS and health related social care for people living with not only cancers but also diseases such as dementias via a single hypothecated resourcing system. Income tax could offer a technically more efficient payment vehicle. Yet from a voter acceptability perspective the increasing use of hypothecated funding framed as a fair form of individual and community wide insurance charge could have greater long-term viability.

Perhaps for presentational and electoral as well as practical Covid 19 linked reasons the funds generated by the new levy announced in September 2021 will in the near term be mainly used to cut NHS waiting times and allied health service limitations, before being 'switched' to social care. The extent to which this will in reality occur during and after 2025 may be questioned. Yet either way increased revenues will relieve pressures on the Exchequer and it is possible that in the second half of the 2020s the new form of taxation will lead on to a more radical approach to integrating health and associated social care revenue generation and service provision.

Action to resolve social care funding concerns will almost certainly be widely welcomed, even if it were eventually to be accompanied by new cost saving programmes. In addition to maintaining downward pressures on public sector salaries and the costs of items purchased by the NHS, increasing the use of online services is one example of a way in which central policy makers might in future try to enhance the cost effectiveness of GP and other services. This survey provides evidence that a section of mainly young people will support such developments. But its findings also warn against denying older and less advantaged service users the benefits of direct contact with their doctors, pharmacists and other health professionals. Part of the harm this could cause would be to limit improvements in the early detection of cancers, even if one of the lessons of the Covid-19 epidemic is that smart phone based systems can effectively be used to call people to take part in case finding and screening programmes.

### ***New national cancer strategies for the post Covid era?***

Since the pioneering mid-1990s Calman-Hine report on improving specialist oncological care in NHS hospitals the UK nations have produced a series of cancer service improvement plans. In England the most recent of these were contained in the 2015 document *Achieving World Class Cancer Outcomes: a Strategy for England 2015-2020* (Independent Cancer Taskforce, 2015) and the subsequent NHS Long Term Plan. These and allied publications (see, for example, the *Report of the Independent Review of Diagnostic Services for NHS England, 2020*) and initiatives by agencies such as Cancer Research UK (2020) have established comprehensive approaches to cancer prevention, diagnosis, treatment and care in all the UK countries. It was the Long Term Plan, for instance, that in 2019 set the target of diagnosing 75% cancers in England at stages 1 and 2 by 2028.

However, the need to curb Covid 19 mortality and treat those acutely or chronically affected by the virus has disrupted not only cancer care but the delivery of all other services. For example, waiting times for joint replacements have risen and the Taskforce on Lung Health (2021) has shown that the diagnosis and treatment of lung cancer been subject to delays (see also O'Dowd et al, 2021) and impaired to a degree that has reduced survival prospects. There have also been negative impacts on people with respiratory disorders ranging from asthma and chronic obstructive pulmonary disease to rarer conditions like, for instance, idiopathic pulmonary fibrosis.

The extent to which extended waits for treatment and allied service delivery problems will remain a significant cause of distress during and after 2022 is uncertain. Qualitative research indicates that some NHS users feel they are being pushed towards private consultations. Yet with regard to GPs urgently referring people with suspected cancers to specialists there has already been a recovery. Such urgent referrals normally lead to about 25% of cancer diagnoses. For comparison, screening programmes have to date accounted for about 6% of annual British cancer (as distinct from pre-cancer) diagnoses while in the order of 20% of cancers are discovered as a result of emergency admissions linked to the manifestation of late-stage disease symptoms. The remainder result from other 'two week' or routine investigations (Public Health England, 2020).

Notwithstanding the fears of around a quarter of the population, the findings reported here indicate that in May 2021 most people were confident that NHS cancer care is, once accessed, likely to be as good as that available elsewhere in the world. To maintain this trust immediate attention must be paid to reducing diagnostic delays and achieving waiting time targets like the 31 days allowed between the decision to treat a cancer being made and delivering the initial therapy and the 62 days permitted between a GP emergency referral and the start of treatment. Beyond that, British cancer policies should focus on identifying and addressing what must additionally be done to raise service satisfaction and survival rates to levels comparable or superior to the best in Europe and in nations like, for instance, Australia.

It might be argued that there is no further need for disease-specific national strategies, because wider-ranging documents such as NHS England's Long Term Plan can when necessary be updated to take into account the changing needs of particular patient and population groups. With regard to primary prevention, for instance, cancers share many of their behavioural and environmental causes with conditions like vascular diseases, type 2 diabetes and prevalent forms of dementia. This reflects a need for broad public health and personal medical care approaches to issues such as moderating alcohol use and reducing obesity rates.

The latter task is very much more complex than cutting tobacco use. As the attitudinal findings presented earlier indicate, public policy on weight-related matters needs

to be approached with care. Simplistic messages about obesity being ‘the new smoking’ could have negative consequences and might even prove divisive. The need for empathetic and holistic medical and social approaches to helping people achieve better weight control cautions against narrowly defined, cancer prevention focused, programmes.

But this issue aside, the conclusion offered here is that the UK nations would benefit from the preparation of updated cancer prevention, diagnosis, treatment and care strategies for the mid-2020s and beyond. Their publication could be aimed at recovering the momentum needed to continuously improve NHS cancer service quality while also seeking to disseminate understanding about issues such as how countries like, for instance, Denmark have improved their cancer outcomes in recent years (All.Can, 2021).

This survey revealed broadly-based UK voter approval for seeking to eliminate all tobacco smoking by the start of the 2030s. Only one person in seven now smokes. But it remains a major cause of neoplastic disease in sites ranging from the lung (up to 80% of lung cancers are still due to smoking) and the oesophagus to the stomach and bladder. Smoking is arguably the single most important driver of health inequalities. There is a robust case for including measures to further reduce smoking in new British cancer strategies for the remainder of the 2020s. A new tobacco strategy for England is due in late 2021.

Such progress should be accompanied by further investments in areas like screening for lung cancers as well as making ‘liquid biopsy’ based approaches to identifying cancers universally available as soon as the internationally available evidence demonstrates benefit. Other strategic priorities highlighted by the attitudinal and linked policy research findings presented in this report include:

- **assuring the timely establishment of local Community Diagnostic Hubs.** There is evidence of public demand for further NHS action relating to the early detection of cancers and other diseases often subject to diagnostic delays. CDHs should facilitate rapid GP and as appropriate other primary care practitioner initiated diagnostic investigations without patients having to access heavily booked and on occasions inadequately equipped regional networks. Commitments to creating CDHs already exist. Yet public opinion data support the view that firm funding plans should now be put in place;
- **building a new consensus about the role of GPs and other primary care professionals – including community pharmacists – in cancer prevention, detection and treatment and the value of reporting potential symptoms.** The establishment of CDHs could be linked to promoting strengthened public and professional understanding of the locally defined roles of primary care professionals in cancer diagnosis, treatment and care and raising awareness that investigating low risk phenomena is vital for the efficient detection of treatable cancers. The protocols presently used by GPs seek to

ensure that signs and symptoms that carry a 3% or greater risk of being indicative of cancer receive urgent attention (Hamilton, 2021). There is an economic as well as a normative case for lowering this threshold to 2% and eventually 1% and simultaneously seeking to reduce the concerns many NHS users have about ‘wasting medical time’. This should help prevent British patients or clinicians being inappropriately blamed for the delayed recognition of cancers that could be found earlier;

- **further strengthening NHS users’ rights of access to optimally effective forms of surgically, radiologically and pharmaceutically based cancer treatment.** Much NHS cancer care is of good quality. Yet as treatments continue to evolve survival improvements other than those stemming directly from earlier diagnosis are most likely to result from multiple low-volume therapeutic innovations and adjustments rather than a few large steps. If the NHS is to retain and enhance public trust policy makers will need to ensure that clinicians can work with the flexibility and confidence required to provide timely cancer care tailored to individual need. Unduly rigid bureaucratic approaches to determining cost effective treatment pathways can inhibit this. If health professionals feel unable to provide optimised individual care there should be a professionally protected way for them to inform patients and families and publish data describing the frequency and causes of such events; and
- **ensuring that the support given to British cancer survivors after their medical treatment has been completed is world class.** NHS acute cancer care standards have risen markedly since the 1990s. But there is evidence that further improvements are needed in areas such as rehabilitation and long-term psycho-social support provided by the NHS, in addition to enhanced LA social care.

Over the past 25 years the most prevalent causes of adult cancer morbidity and mortality (lung cancer, breast cancer, colon cancer and prostate cancer) have been central to the outcome improvement efforts of many policy makers and influencers. Life-saving advances have been made, even though there is more to be achieved if, for example, NHS lung cancer outcomes are to reach the standards of the most advanced American and European settings (UKLCC, 2020). However, there is a strong case for concluding that more effort should also be put into improving outcomes amongst people affected by cancers which although less common are responsible for very significant levels of potentially avoidable illness and death. As Box 5 outlines, multiple myeloma provides an example of a such a condition.

### *Pharmaceutical sector policies*

Anti-cancer medicines have during the life of the NHS to date played an important yet not dominant part in reducing the disease burden caused by cancers. Although it is often best to think of different types of treatment working together

## Box 5. Multiple Myeloma: an Intermediate Incidence Cancer

In the UK about 370,000 people will be newly diagnosed with a neoplastic disease in the coming year and a little under half this number – around 170,000 – of cancer deaths will be recorded. Some 45% of these – nearly 80,000 – will be due to the four most common life-threatening cancers, those of the lung, bowel, prostate and breast. Lung cancer alone still causes a fifth of all British cancer deaths.

Further progress will require increased investment in areas like lung cancer prevention, detection and treatment. Yet reducing the suffering and mortality due to less common cancers also deserves prioritisation. Moderately common (as distinct from rare) cancers currently account for just over 80,000 UK deaths. They range from pancreatic cancer, for which there has as yet been little therapeutic progress, and liver cancer, which is currently the fastest increasing cause of cancer death in this country, through to the blood cancers. These include the various forms of child and adult leukaemia, the lymphomas and multiple myeloma.

Myeloma, as it is commonly called, is slightly more frequent in men than women. It originates in blood plasma cells known as B lymphocytes, which normally produce protective antibodies. The precise aetiology has not yet been described. However, it is associated with inherited genetic factors combined with acquired epigenetic changes. The latter may result from exposures to external agents ranging from infections to chemicals

such as benzene. Almost 6,000 people are likely to be diagnosed with myeloma in the UK in 2022. There are presently 20-30 thousand individuals living with the condition.

Before the introduction of medicines that can treat myeloma (one group of which includes thalidomide and closely related drugs) life expectancy after diagnosis was less than a year. Bone pain and other symptoms associated with the disease were poorly controlled. Today about half of the those diagnosed with myeloma (who are typically in their 60s or 70s) live for approaching five years and the disease is better managed. New treatments – including not only stem cell transplants but CAR T cell and bispecific antibody therapies – are becoming available.

Within the next two to three decades multiple myeloma should become fully understood and effectively, if not completely, curable. If the urgent effort put into controlling Covid 19 were made such progress could be accelerated. However, as of today myeloma has one of the highest rates of delayed diagnosis of any cancer, with a third of patients diagnosed through emergency routes rather than GP referral. At worst, people living with myeloma can be given analgesics for problems such as back and rib pain for years before an appropriate diagnosis is made and therapy commenced. Earlier diagnosis of multiple myeloma is an example of the benefit that the timely development of Community Diagnostic Hubs should help deliver.

synergistically, surgery and radiotherapy have so far been central to curing most forms of neoplastic disease. But as pharmaceutical technologies like immunotherapies and antibody-drug conjugates continue to develop the value of anti-cancer pharmaceuticals to patients and the wider community will increase (Schilsky et al, 2020; Chauvin and Zarour, 2020). Cancer vaccines and new cell, gene and RNA based therapies are key examples of the types of progress currently taking place.

The Government's recent '*Life Sciences Vision*' (2021) presents an encouraging picture of how after Covid 19 is controlled by public health and pharmaceutical interventions (the mRNA vaccines now in use were in part developed as a result of cancer research) the UK will generate fresh health and economic gains through bio-scientific enterprise. Seeking to align the funding and other incentives required to combine good local welfare services with globally successful industrial development builds on principles established at the time of the NHS's creation. The architects of the 1946 legislation believed that in the post-Imperial era a small island nation such as Britain could only fund good public services if its advanced industries generate sufficient world market earnings.

The evidence presented in this report indicates majority public support for this approach today. A minority positioned on the left strongly opposes measures like granting IPRs, which their proponents believe are needed to preserve the economic viability of both public and private research-based

enterprises. Some individuals and groups on the right reject regulatory interventions designed to guide the working of '*the free market*'. Such tensions are to a degree inevitable in a field in which private sector innovators supply products that are often seen as public goods. Yet most people in the UK wish to see a regulated market for medicines and allied products in which researchers and clinicians collaborate across institutional and public/private boundaries to create more effective ways of preventing, controlling and curing diseases like cancers.

It would be beyond the scope of this analysis to go into the details of UK pharmaceutical policy. But in essence there are concerns that the country is in an ambiguous position. While some policy statements are clearly focused on strengthening the pharmaceutical sector in a coherent manner, the wider picture is divided. Industry critics may, for instance, believe that UK (along with other) novel medicine prices can and should be further reduced. Other observers argue that there is a danger that the NHS is using its monopsonistic purchasing power to drive down the *de facto* costs of innovative treatments to an undesirable extent and to on occasions permanently limit access to beneficial therapies. Recent concerns surrounding the provision of medicines such as the prostate cancer treatment abiraterone illustrate this observation (ICR, 2021). At worst such problems harm patients and may damage investment in research and/or manufacturing.

## Box 6. NHS Pharmaceutical Cost Controls

Over and above the efforts of local professionals and formulary committees, the key elements in the current NHS system for purchasing medicines after their approval by the Medicines and Healthcare products Regulatory Agency are VPAS, NICE and NHS England and where appropriate their equivalents in the other UK nations. Their main functions are as follows:

- VPAS (the Voluntary Scheme for Branded Medicines Pricing and Access) applies across the entire UK. It presently limits total NHS medicines spending to a maximum increase of 2% per annum. Excess industry earnings are returned to the DHSC and allied bodies. The current VPAS agreement will expire in 2023.
- NICE (the National Institute for Health and Care Excellence) produces clinical guidelines and assesses whether or not new medicines (and new applications of established medicines) meet cost effectiveness criteria. Up until 2017 treatments judged cost effective by NICE had to be supplied by the NHS in England and Wales. Since then the application of a 'Budget Impact Test' (BIT) has meant that the supply of pharmaceutical products which meet NICE cost effectiveness criteria but are likely to cost more than £20 million in any of the first three years after first being made available can be restricted. Their producers are likely to face additional demands for price reductions.
- NHS England is the largest British health sector purchaser of innovative medicines for rare disorders and cancers. Since 2017 it has played an extended role in deciding treatment availability and has recently

shown interest in tendering systems for use when NICE has more than one medicine for the same or similar indications.

This system, coupled with the work of bodies such like the Scottish Medicines Consortium and the Innovative Medicines Fund formally announced in July 2021 (NHS England, 2021), has important strengths. Exceptional cases of undue profit taking on unbranded generic medicines by companies that are not part of the VPAS arrangements on occasions receive high levels of attention. But there is little reason to believe that in overall terms the UK is paying excessively for medicines or vaccines. Some fear that undue cost controls are endangering Britain's position as a country where medicines are launched early and which attracts investment from abroad.

A review published by the European Federation of Pharmaceutical Industries and Associations (EFPIA) in April 2021 found that out of 152 medicines licensed by the European Medicines Agency between 2016 and 2019 110 (72%) were available (defined in terms of being funded by national health care providers) in England in January 2021 (Newton et al, 2021). This is above the European average rate, albeit for Scotland the reported figure was only 52%. Yet countries like Germany and Switzerland appear to have greater overall medicines availability. It is also the case that in the UK nations about half the new anti-cancer and other treatments offered by the NHS are provided on what NICE calls an optimised basis. This means that they can only be given for selected indications, rather than their full range of licensed uses.

The available evidence indicates that as against other leading life science nations the UK has over the past half century been a low to moderate spender on medicines and allied products expressed as a proportion of GDP. Total NHS spending on pharmaceuticals net of discounts accounts for little over 10 per cent of health service outlays, which is under 1% of GDP. This proportion has stayed roughly constant for several decades, despite the advances that have taken place in fields such as cancer treatment. As noted earlier, actual NHS spending on anti-cancer medicines of all types accounted for up to 0.2% of UK GDP in 2019 (Taylor, 2020).

Against this background there appears little objective reason for policy makers or others to fear that the NHS spends too much on pharmaceuticals. But with the further development of cell, gene, RNA-based and other advanced forms of treatment during the coming decade there may be an increased risk of the health service not being prepared or able to invest adequately in such innovations. This threat could well be exacerbated if the economy is slow to recover from the combined impacts of Covid-19 and Brexit.

There is no 'scientific' way of generating a simple answer to the question of how best to obviate this challenge. However, the central recommendation offered on the basis of the research conducted for this analysis is that it would be timely if an independent review, as far as possible free from

vested interests of all types, including those of economists, could be conducted into the strengths and weaknesses of health economics in NHS and allied decision making and the extent to which the various parts of the health service' pharmaceutical cost control system (see Box 6) work together to serve the British public's short, medium and long term interests.

Such a cross-cutting analysis could help support not only the further development of the NHS after the introduction of the currently planned reforms in England but also the translation of the 2021 *Life Science Vision* into a nationally and globally viable reality. It could also be linked to a similar review of the impacts of cancer care development strategies, to be undertaken before the production of revised cancer plans for the four UK nations.

### *The value of the third sector in UK cancer research and care*

Voluntary sector organisations play an important part in British cancer research and care. For example, Cancer Research UK can claim to be the world's largest independent oncology research charity and Macmillan Cancer Support and Marie Curie provide illustrations of relatively large 'third sector' agencies that provide valued



## Box 7. The Long-term Economics of Low Volume Use Medicines

Traditional small molecule pharmaceuticals have high fixed costs of development (it is expensive to conduct the research and trials needed to create licensed medicines and build manufacturing capacity) balanced by low marginal costs of production. When supplied at high volumes their unit prices are typically relatively low, even while intellectual property protections apply. But when sales volumes are low unit prices are normally higher, regardless of clinical value issues. It is not until innovations of this type lose IPRs that intensified competition can reduce prices to the lowest levels acceptable to alternative suppliers.

The marginal production costs of Advanced Therapy Medicinal Products (ATMPs, which arguably include not only cell and gene therapies but other structurally sophisticated treatments acting on RNA or DNA expression) tend to be much higher than those of traditional medicines. Nevertheless, their initial prices should from the viewpoint of those making them be in part defined by the number of treatments needed.

In the UK this has to a degree been recognised by the creation of NICE's Highly Specialised Technologies (HST) Programme. Subject to various restrictions and conditions, this can permit NICE to recommend low volume use therapies costing £100,000 and in very rare circumstances up to £300,000 per Quality Adjusted Life Year gained (Anderson et al, 2021). The normal NHS affordability threshold is £20-30,000 per QALY.

However, the HSTP is not often used and there are concerns that as increasing numbers of ATMPs are

developed for low volume indications the British system will lack the flexibility and capacity needed to permit their timely NHS use at overall costs that are acceptable to the public purse and viable for research based manufacturers. There are no simple solutions to this problem. Yet for the purposes of this report it is of note that:

- UK-wide, the NHS has limited its net overall pharmaceutical and allied supply costs to around 10% of its total spending since the 1980s. Pharmaceutical innovation has not been a key cause of rising health spending. As new treatments enter clinical use other therapies mature and fall in price. It is important to understand this process in dynamic rather than static terms. Otherwise treatments for rare (low incidence) disorders which could over their full lifetimes benefit relatively large numbers of people for an acceptable cost might never be marketed because their initial price is deemed unaffordable; and
- bureaucratic and linked health economics approaches to health care cost limitation tend to be very cautious about taking into account factors such as the long term value of innovative treatments. For example, in the case of life years expected to be gained in the future a 3% discount rate is currently applied. This means that an extra life year that it is anticipated will be generated in 25 years' time will be valued at about half one enjoyed in the present. NICE has suggested using a lower discount rate (1.5%) as part of its current methods review. But this may not be acceptable to interests such as those of the Treasury without the introduction of other counterbalancing cutbacks (NICE, 2021).

services to individuals and families affected by cancers. There are also a considerable number of condition specific organisations that fund research and offer information and personal support which complements NHS and Local Authorities services. This can help people take control of their situations, in part via the creation of communities of individuals with shared problems that become able to guide professional practices and research objectives.

Within relevant regulatory constraints charities can in addition play a critical part in driving public sector service developments, albeit they may be inhibited if they become unduly dependent on direct State funding. The findings displayed in Figure 15 of this report indicate that a majority (60%) of the UK electorate believes that charities have a legitimate role to play in ensuring that policy makers invest adequately in areas such as providing therapies for rare cancers and older people living with oncological disease.

During the Covid 19 pandemic UK charitable organisations have continued to fund cancer research and the provision of information and personal care. But lockdowns and other public health measures have negatively affected the incomes derived from sources such as high street shop sales and events like bazaars and fund raising walks and dinners. In the case of Cancer Research UK, for instance, overall

income fell by about 25% in 2020/21. This necessitated cuts in the grants awarded to researchers and the institution of a recovery plan for the years through to 2024. The IPPR has estimated that the total direct and indirect costs of Covid 19 to UK research resulting from declines in charitable funding could be in excess of £7 billion (Thomas and Nanda, 2020).

From a life sciences policy perspective key questions relate to how in the post-Brexit era public, industrial and third sector funded research on cancer treatment and other public health priorities can be restored or enhanced. Potential strategies include creating international fund-raising vehicles and building stronger public/private/third sector alliances.

Critics have sought to control industry funding of health charities because this may change health policies, influence patterns of treatment and create pressures to increase public spending with unwanted consequences. Such hazards exist. Yet at the same time there is a danger that political interests combined with bureaucratic behaviours also distort societal priorities relating to issues such as incentivising the improvement of disease treatments. This is despite the fact that – as discussed in Box 7 – better therapies for even low incidence indications are over time likely to benefit many people.

## Conclusion

Covid 19 has imposed heavy costs. Most if not all aspects of life in the UK have been affected, including cancer research, treatment and care. Public confidence in and support for the NHS remains as strong as it was in 2019, before the pandemic commenced. Yet there are now major challenges to be overcome in relation to cutting NHS waiting times and improving health and social care quality, as well as in bringing the infection under satisfactory control, nationally and internationally. With regard to the lessons to be learned from the Covid 19 pandemic, what to date is clear that preparedness exercises conducted with a complacent lack of critical intelligence and an underlying focus on cost limitation are no substitute for a sincere commitment to the defence of public health and an urgent concern for assuring future wellbeing in an inherently uncertain world.

This understanding has important implications for cancer research and treatment, as well as for the management of new threats to human survival like global warming. However, in the case of Covid 19 it is also clear that – thanks in large part to pharmaceutical advances – the disease will in the relatively near future cease to be a significant cause of death and disability in the UK. By or before the mid-2020s the central health challenge facing Britain should have returned to preventing, detecting and effectively treating ageing related non-communicable diseases.

The cancers in many respects typify such ‘post transitional’ conditions. Improving outcomes will require comprehensive progress in areas ranging from finding better ways of helping people to achieve protective life styles through to facilitating earlier diagnosis and ensuring that NHS cancer patients are able to access treatment and support that is optimal for them personally, rather than just cost-effective for service managers operating with what can on occasions be inappropriately constrained budgets.

Politicians and other policy makers might see themselves as leading public opinion. Yet the reality is complex. In the case of tobacco smoking, which in the UK was the greatest avoidable killer of the twentieth century, many key policy changes followed rather than preceded shifts in what a majority of voters felt necessary and appropriate. A current risk is that, despite public support for stopping all smoking by 2030, the habit is now largely confined to less advantaged minorities. This may cause cessation efforts to lose political momentum before smoking has been eradicated. There is an informed public choice led case for taking action to prevent this loss of public health opportunity.

Another positive message to be taken from the 2021 UCL Cancer Policy Project survey is that the majority of the British public already strongly favours improving early diagnosis rates and providing optimally effective cancer treatments

to not only children and young adults but also to people with cancer who are aged over 70 years. As with enhancing social care (which is increasingly relevant to cancer survivors) there are concerns about not only the current technical viability of some forms of pre and early cancer detection but also the affordability of ongoing research programmes and delivering advanced treatments. Problems may be exacerbated by factors like shortfalls in the numbers of doctors and other skilled health professionals available to the post-Brexit NHS. But if policy makers have the will and expertise to pursue the progress that a majority of UK voters expect there is hope that by the 2050s most cancers will be effectively curable because of earlier detection combined with better therapeutic interventions.

Some may wish to limit future increases in tax funded health and social care outlays to the minimum necessary to contain dissatisfaction with the quality of public services. It may be thought that over time increased private spending could be facilitated in ways that will reduce political pressures for additional public outlays. But this would be a high risk strategy in the British context. Despite the possible unwillingness of sections of the UK public to recognise limitations in NHS care, the survey data and other evidence analysed for this report suggest that if it became widely believed that the system initially established in 1948 has become unable to provide good treatment for people with conditions such as later stage cancers there would eventually be a strong electoral reaction.

Whether the advances in cancer care and survival now hoped for in the UK will be achievable in poorer settings is much less certain. Although 60% of the British population says that stopping the world-wide harm caused by cancers is one of the most important things humanity might achieve by the mid-2000s, support for providing cancer-related aid to less advantaged parts of the world community remains limited. Without concerted international efforts, cancer is unlikely to become globally controlled at any point in the 21st century.

Looking to the future, an important conclusion to draw for those seeking to help lead rather than simply react to social change is that there are now international as well as local British opportunities for governmental agencies, charities, professional bodies and organisations such as pharmaceutical companies to work more effectively together to address the challenges of cancer prevention, detection and care. In the short term advances being made at the leading edges of biology and cancer treatment may seem likely to benefit only well-off individuals and communities. But as therapies continue to evolve their costs will in time fall and outcomes improve. Such trends are creating a new potential to achieve better health and greater happiness for people throughout the world.

## References

- All.Can (2021). Danish Cancer Patient Pathways: three-legged strategy for faster referral and diagnosis of cancer. Available at [www.all-can.org/efficiency-hub/danish-cancer-patient-pathways-three-legged-strategy-for-faster-referral-and-diagnosis-of-cancer/](http://www.all-can.org/efficiency-hub/danish-cancer-patient-pathways-three-legged-strategy-for-faster-referral-and-diagnosis-of-cancer/) Last accessed August 2021
- Anderson M., Drummond M., Taylor D., McGuire A., Richards M. and Mossialos E. (2021) Promoting innovation while controlling cost: The UK's approach to health technology assessment. In preparation
- Badshah N (2021) Blood test that finds 50 types of cancer is accurate enough to be rolled out. *Guardian* June 2021 Available at [www.theguardian.com/society/2021/jun/25/blood-test-that-finds-50-types-of-cancer-is-accurate-enough-to-be-rolled-out](http://www.theguardian.com/society/2021/jun/25/blood-test-that-finds-50-types-of-cancer-is-accurate-enough-to-be-rolled-out) Last accessed August 2021
- Cancer Research UK (2020) Early Detection and Diagnosis of Cancer Roadmap. Available at [www.cancerresearchuk.org/funding-for-researchers/research-opportunities-in-early-detection-and-diagnosis/early-detection-and-diagnosis-roadmap](http://www.cancerresearchuk.org/funding-for-researchers/research-opportunities-in-early-detection-and-diagnosis/early-detection-and-diagnosis-roadmap) Last accessed August 2021
- Cancer Research UK (2021) Cancer Risk Statistics. Available at [www.cancerresearchuk.org/health-professional/cancer-statistics/risk](http://www.cancerresearchuk.org/health-professional/cancer-statistics/risk) Last accessed August 2021
- CLS (2021) Covid 19 Survey. Available at <https://cls.ucl.ac.uk/covid-19-survey/> Last accessed August 2021
- Charlesworth A, Tallack C and Alderwick H (2021). If not now, when? The long overdue promise of social care reform. The Health Foundation. Available at [www.health.org.uk/news-and-comment/blogs/if-not-now-when-the-long-overdue-promise-of-social-care-reform](http://www.health.org.uk/news-and-comment/blogs/if-not-now-when-the-long-overdue-promise-of-social-care-reform) Last accessed August 2020
- Chauvin J-M. and Zarour H.M. (2020). TIGIT in cancer immunotherapy. *Journal for ImmunoTherapy of Cancer* 2020;8:e000957. doi:10.1136/jitc-2020-000957
- Hamilton W. (2021). Personal communication
- Hamilton W. (2020) Cancer care, present and future. Available at [www.the-exeter.com/adviser/knowledge-centre/cpd/cancer-care-present-and-future-by-professor-willie-hamilton-40-minutes-cpd/](http://www.the-exeter.com/adviser/knowledge-centre/cpd/cancer-care-present-and-future-by-professor-willie-hamilton-40-minutes-cpd/) last accessed August 2021
- HMG (2021). Life Sciences Vision. Available at [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1000030/life-sciences-vision.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1000030/life-sciences-vision.pdf) Last Accessed August 2021
- Hornsey M.J., Harris E.A. and Fielding K.S. The psychological roots of anti-vaccination attitudes: A 24-nation investigation. *Health Psychology*, 37(4), 307–315. <https://doi.org/10.1037/hea0000586>
- ICR (2021). The ICR responds to NICE's recommendation not to approve abiraterone as first-line treatment for advanced prostate cancer. Available at [www.icr.ac.uk/news-archive/the-icr-responds-to-nice-s-recommendation-not-to-approve-abiraterone-as-first-line-treatment-for-advanced-prostate-cancer](http://www.icr.ac.uk/news-archive/the-icr-responds-to-nice-s-recommendation-not-to-approve-abiraterone-as-first-line-treatment-for-advanced-prostate-cancer) Last accessed August 2021
- Independent Cancer Taskforce (2015). Achieving world-class outcomes: a strategy for cancer. Cancer Research UK, August 2015. Available at [www.cancerresearchuk.org/sites/default/files/achieving\\_world-class\\_cancer\\_outcomes\\_-\\_a\\_strategy\\_for\\_england\\_2015-2020.pdf](http://www.cancerresearchuk.org/sites/default/files/achieving_world-class_cancer_outcomes_-_a_strategy_for_england_2015-2020.pdf) Last accessed August 2021
- IFS (2021). Podcast | How to reform – and fund – social care? Available at [https://ifs.org.uk/podcast/how-to-reform-and-fund-social-care?gclid=EALalQobChMikanq06mS8glVB-rtCh1FCgMjEAYASAAEgLyL\\_D\\_BwE](https://ifs.org.uk/podcast/how-to-reform-and-fund-social-care?gclid=EALalQobChMikanq06mS8glVB-rtCh1FCgMjEAYASAAEgLyL_D_BwE) Last accessed August 2021
- Newton M, Scott K and Troein P (2021) EFPIA Patients Wait Indicator 2020 Survey. IQVIA
- NHS England (2019) The NHS Long Term Plan. Available at <https://www.longtermplan.nhs.uk/wp-content/uploads/2019/01/nhs-long-term-plan.pdf>. Last accessed August 2019
- NICE (2021). Review of methods for health technology evaluation programmes: proposals for change. Available via [www.nice.org.uk/about/what-we-do/our-programmes/nice-guidance/chte-methods-and-processes-consultation](http://www.nice.org.uk/about/what-we-do/our-programmes/nice-guidance/chte-methods-and-processes-consultation) Last accessed August 2021
- O'Dowd E., Succony L., Karahacioglu B et al (2021) Quantifying the impact of Covid-19 on lung cancer: an urgent need for restoration. *Lung Cancer* 2021 Jun; 156: S15. Published online 2021 May 28 doi: 10.1016/S0169-5002(21)00234-8
- OECD (2021). Health Resources – pharmaceutical spending. Available at <https://data.oecd.org/healthres/pharmaceutical-spending.htm> Last accessed August 2021
- OECD (2019). *Health at a Glance 2019: OECD Indicators*, OECD Publishing. Paris. <https://doi.org/10.1787/4dd50c09-en>.
- Pinato D.J., Scotti L., Gennari A. et al (2021) Determinants of enhanced vulnerability to coronavirus disease 2019 in UK patients with cancer: a European study. *European Journal of Cancer* 150, 190-202.
- Public Health England (2020). Routes to Diagnosis: 2006-17 Results. Available at [www.gov.uk/government/statistics/routes-to-diagnosis-2006-to-2017-results/routes-to-diagnosis-2006-to-2017-results](http://www.gov.uk/government/statistics/routes-to-diagnosis-2006-to-2017-results/routes-to-diagnosis-2006-to-2017-results) Last accessed August 2021
- Quinn-Scoggins H., Cannings-John R., Moriarty Y. et al (2021) The Impact of COVID-19 on Cancer Symptom Experience and Help-Seeking Behaviour in the United Kingdom: A Cross-Sectional Population Survey. Available at SSRN: <https://ssrn.com/abstract=3793564> or <http://dx.doi.org/10.2139/ssrn.3793564>
- RCR (2020) New Reports put Radiologists Shortfalls into Focus. Available at [www.rcr.ac.uk/posts/new-reports-put-uk-radiologist-shortages-focus](http://www.rcr.ac.uk/posts/new-reports-put-uk-radiologist-shortages-focus) Last accessed August 2021
- Richards M., Thorlby R., Fisher R [www.gov.uk/government/statistics/routes-to-diagnosis-2006-to-2017-results/routes-to-diagnosis-2006-to-2017-r](http://www.gov.uk/government/statistics/routes-to-diagnosis-2006-to-2017-results/routes-to-diagnosis-2006-to-2017-r) and Turton C. (2018). Unfinished Business: An assessment of the national approach to improving cancer services in England 1995–2015. London: The Health Foundation
- Richards M. (2020) *Diagnostics: Recovery and Renewal. Report of the Independent Review of Diagnostic Services for NHS England*. Available at [www.england.nhs.uk/wp-content/uploads/2020/10/BM2025Pu-item-5-diagnostics-recovery-and-renewal](http://www.england.nhs.uk/wp-content/uploads/2020/10/BM2025Pu-item-5-diagnostics-recovery-and-renewal). Last accessed August 2021
- Samuel E. and Boon J. (2014) A Vision for 2014-24. Cancer Research UK and NHS England
- Schilsky R.L., Nass S., Le Beau M. and Benz E.J. (2020). Progress in Cancer Research, Prevention, and Care. *New Engl J Med* 383;10 pp 897-900
- Spencer K., Jones C.M, Girdler R. et al (2021) The impact of the COVID-19 pandemic on radiotherapy services in England, UK: a population-based study. *The Lancet Oncology* 22, 309-320
- Sullivan R (2021). Personal communication
- Taskforce for Lung Health (2021). People with lung disease waiting over a year for treatment as backlog of lung health care reaches 100,000 appointments in England. Available at [www.blf.org.uk/taskforce/press-release/respiratory-backlog](http://www.blf.org.uk/taskforce/press-release/respiratory-backlog) Last accessed August 2021
- Taylor D.G and Heller M. (2019) British Public Attitudes towards Cancer Research and Treatment. Available at [www.ucl.ac.uk/pharmacy/sites/pharmacy/files/embargoed\\_to\\_001\\_hrs\\_wed\\_june\\_26th\\_british\\_public\\_attitudes\\_towards\\_cancer\\_in\\_2019.pdf](http://www.ucl.ac.uk/pharmacy/sites/pharmacy/files/embargoed_to_001_hrs_wed_june_26th_british_public_attitudes_towards_cancer_in_2019.pdf) Last accessed August 2021
- Taylor D.G. (2020). The Political Economics of Cancer Drug Discovery and Pricing, *Drug Discovery Today*, 25, 12, pp 2149-2160
- The Lancet Oncology (2021). Covid and Cancer: 1 year on (Editorial). *The Lancet Oncology* 22; 4; 411
- Thomas C. and Nanda S. (2020). Research at Risk. London: IPPR
- TOTT (2021) We Must Find Ways to Detect Cancer Much Earlier. Available at [www.scientificamerican.com/article/we-must-find-ways-to-detect-cancer-much-earlier/](http://www.scientificamerican.com/article/we-must-find-ways-to-detect-cancer-much-earlier/) Last accessed August 2021
- UKLCC (2020) Covid-19 Matters. Available at [www.uklcc.org.uk/wp-content/uploads/2020/10/UKLCC-COVID-19-Matters-Report-Oct-2020.pdf](http://www.uklcc.org.uk/wp-content/uploads/2020/10/UKLCC-COVID-19-Matters-Report-Oct-2020.pdf) Last accessed August 2021

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