Cancer Won't Wait - Moving investment beyond the immediate needs of COVID - Cancer Research UK representation to the Comprehensive Spending Review 2021

Summary

Cancer Research UK (CRUK) is the world's largest cancer charity dedicated to saving lives through research. We support research into over 200 types of cancer, and our vision is to bring forward the day when all cancers are cured. Our long-term investment in state-of-the-art facilities has helped to create a thriving network of research at 90 laboratories and institutions in more than 40 towns and cities across the UK supporting the work of over 4,000 scientists, doctors and nurses. In 2020/21, Cancer Research UK invested £421 million on new and ongoing research projects into the causes and treatments for cancer.

CRUK wants to see cancer patients in the UK have the best chances of survival, an ambition we believe is shared by the UK Government. Cancer affects every family across the UK – one in two of us will get cancer in our lifetime, and by 2035 the number of new cancer cases is projected to rise to over half a million cases (up 40% on the number of cases in 2014). But cancer survival in the UK lags behind other comparable countries, and while the UK Government has a welcome target of diagnosing 75% of cancers at stages I and II by 2028 – we are not on track to achieve this with the current plan and investment. If this target is met, it would help in improving UK cancer survival and bring us much closer to other countries with better survival. Improving early diagnosis and cancer survival would also have a positive impact on economic productivity – Demos estimates that the economic cost of cancer is £1.4bn a year, rising to £7.6bn if we take into account mortality.

Even before the pandemic, cancer services were significantly struggling, with the important 62-day cancer waiting time target for patients to begin treatment following an urgent GP cancer referral not being met since December 2015. Not only has the target been missed, but it has been in continual decline since 2017, showing a service under increasing pressure. While demand has continued to increase, capacity to diagnose and treat cancer patients has not grown at the same pace. The pandemic has had made the challenge even greater. Cancer services must be transformed to improve waiting times and outcomes for cancer patients – but this cannot happen without targeted, long-term investment in staff and equipment.

Just as science is our route out of the pandemic, science will also be our route to beating cancer. The Spending Review is taking place just ahead of the UK-US cancer summit. It is therefore an opportune moment to publicly back cancer research and set a positive tone for those bilateral conversations. The Prime Minister has tasked the UK Government to use the scientific success of the UK's approach to vaccines to tackle other priorities, including "curing cancer and not only treating it". As the UK's strongest area of clinical research, cancer research offers opportunities to help deliver the 2019 Conservative manifesto's commitment to "increase cancer survival rates", accelerate economic growth to build back better, and cement the UK's status as a science superpower. Following through on the commitments in the Life Sciences Vision and Clinical Research Delivery Vision are crucial to this – but this needs to be bolstered by adequate investment in R&D.

The past 18 months have also served as a stark reminder as to the importance of public health in saving lives. Cancer disproportionately affects those in the most disadvantaged communities. An estimated 27,200 extra cases of cancer each year in England are attributable to socioeconomic deprivation, because incidence rates are higher in more deprived populations compared to the least deprived. Tobacco – the leading preventable cause of cancer – is also one of the leading causes of

socioeconomic inequalities in health in England and accounts for approximately half of the difference in life expectancy between the lowest and highest income groups. Addressing tobacco is therefore key to improving cancer inequalities, reducing the demand on the NHS and levelling up the country. The UK Government has committed to achieving 'smokefree' by 2030 in England, but this is will require properly funded, bold and ambitious action on tobacco control.

The last year has highlighted the benefits that investing in health, science and public health can bring to our country, our people and our global reputation. We ask that this year's Budget and Spending Review learns from that recent past and provides the necessary backing to deliver on the UK Government's own Visions and manifesto commitments, moving investment beyond the immediate needs of COVID-19 and looking to a dynamic and ambitious future for our NHS, medical research and the health of our nation. Delivering on these commitments and our shared ambition on cancer can build a legacy of cancer survival and transformational recovery in this country which will make a difference for generations to come. This submission supports the UK Government's ambition to level up by targeting investment where it will deliver the most benefit for cancer patients and communities across the UK:

1) **Grow the cancer workforce and fund more diagnostic equipment,** to tackle the cancer backlog, meet growing demand, restore cancer waiting times and reform diagnostic services to make cancer survival in the UK world leading. The UK Government is not on track to achieve its ambition for 75% of cancers to be diagnosed early by 2028. The NHS was under resourced pre-pandemic. 1 in 10 diagnostic posts were vacant and the UK ranked close to the bottom on both the average number of MRI and CT scanners per million out of 36 OECD countries. While recent UK Government commitments for NHS funding are welcome, we are yet to see funding to address wider DHSC budgets, including explicitly for workforce education and training or capital investment. An extra £216 million investment in Health Education England to expand the number of staff in key cancer professions is critical, and funding for more diagnostic equipment (around £1.3 billion for imaging equipment alone) is vital to implement the much-needed reforms described in the Richards Review.

2) **Strengthen the UK's capabilities in life sciences and oncology R&D,** to deliver the Life Sciences Vision and its cancer healthcare mission, realise the Clinical Research Delivery Vision's potential to improve cancer patient outcomes, and cement the UK's status as a science superpower. Long-term investment in medical research, including cancer research, will be vital to achieving these goals, and the UK Government must fulfil its commitment to increase annual public investment in R&D to £22 billion by 2024-25. To secure the future success of NHS research and the UK's world-leading research universities, the UK Government should uplift its investment in health R&D via the National Institute for Health Research and Quality-Related (QR) funding. Cancer is a global health challenge, and the UK Government should use the forthcoming UK-US Cancer Summit as a catalyst to put Global Britain into action by building stronger international relations based on a shared mission to beat cancer.

3) **Measures to achieve Smokefree ambitions by 2030.** The UK Government is 7 years behind on achieving its Smokefree target in England, and during the first lockdown, smoking among young adults increased by 25% in England – equating to 652,000 more young adults smoking compared to before the pandemic. The UK Government must take bold steps to drive prevention and build resilience by investing in tobacco control. A Smokefree Fund that makes the tobacco industry pay for the damage they cause - but without letting them influence how the funds are spent - should be implemented to raise revenue for tobacco control. This would help reach smokefree targets, free up budget for use in other important areas of public health and address a significant contributor of health inequalities.

Full Cancer Research UK (CRUK) Representation

Investing for a transformational recovery and innovation in cancer services

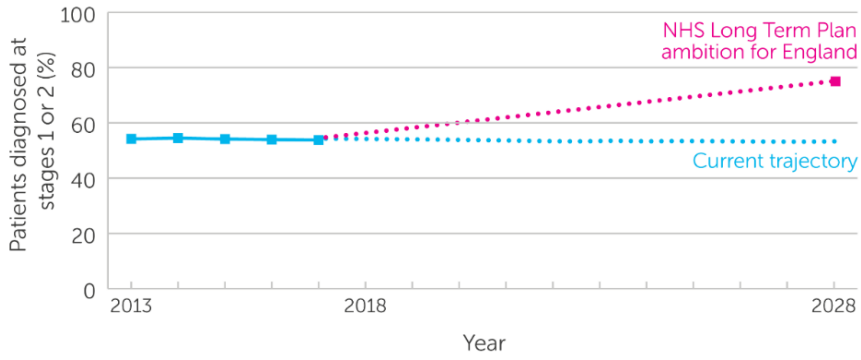
1. Aspiring to achieve world class cancer outcomes in England is vital for the one in two of us who will be diagnosed with cancer in our lifetime.[1] Decades of breakthroughs in research have resulted in UK cancer survival doubling over the last 40 years – now half of people diagnosed with cancer survive their disease for 10 years or more.[2] Despite this, more than 166,000 people still die of cancer every year in the UK[3], and many more people and families affected by cancer are forever touched by its impact – it is estimated that almost 3 million people are alive in the UK today having previously been diagnosed with cancer.[4] And with the number of people diagnosed with cancer each year in the UK projected to grow to over 500,000 in 2035[5], up 40% on 2014 levels, it is vital that we make our aspirations a reality.

2. The opportunity for improvements in cancer services to accelerate progress towards key UK Government ambitions is significant. With cancer survival outcomes worse among more deprived communities compared to the most well off[6], transforming cancer services will in turn help level up health outcomes across the country – enabling many more people to lead longer, healthier and more productive lives with their loved ones.

3. Improving early diagnosis and cancer survival would also have a positive impact on economic productivity. Demos estimates that the economic cost of cancer in terms of lost wages and benefits was £1.4bn a year, rising to £7.6bn if we take into account mortality.

4. The 2019 NHS Long Term Plan set a bold ambition for cancer by 2028 – to see 75% of all cancer patients diagnosed at Stage I or II from around 55% in 2018. NHS England have estimated that achieving this could contribute to 55,000 more cancer patients each year surviving their disease for 5 years or more.[7] Reducing late stage diagnosis of cancer, and ensuring more patients are diagnosed at the earliest, more treatable stages, is vital for improving cancer outcomes.

Observed and projected percentage of patients diagnosed at stage 1 or 2 in England



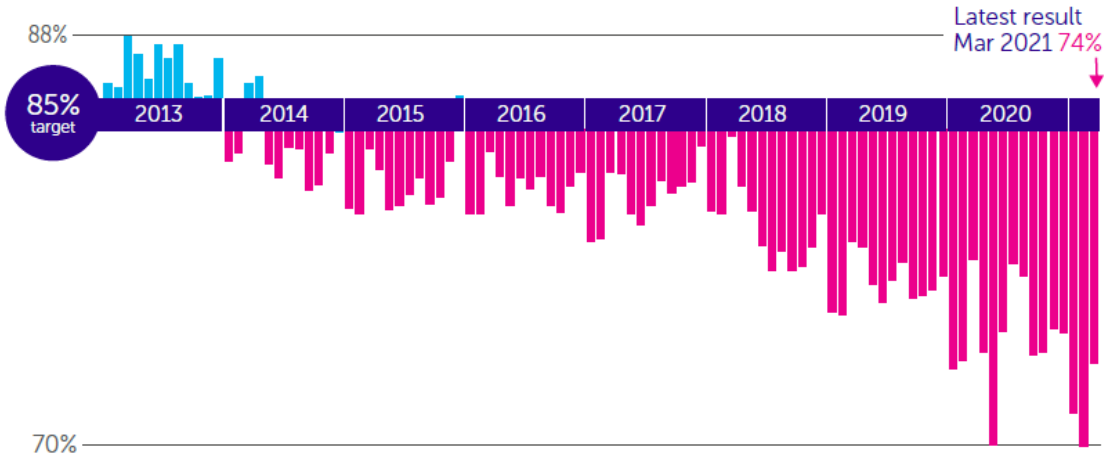
Cancers with known stage only.

Source: NCRAS (part of PHE) Staging data in England 2013-2018; Cancer Research UK projections 2019-2028.

5. Reaching this goal within the LTP timescale will be incredibly challenging at current levels of investment. This ambition would mean diagnosing more than 100,000 additional patients at stage I or II each year by 2028.[8] However, the current pace of improvement is too slow – over the last decade, the proportion of cancers diagnosed at Stage I and II in England has remained stubbornly stable with only around 55% of cancer patients diagnosed at these stages in 2018.[9]

6. Even before the current COVID-19 pandemic, cancer services were struggling, with the important target for 85% of patients to begin treatment within 62 days following an urgent GP cancer referral not met since December 2015 and performance has been gradually worsening.[10] The reality is that with every target missed we are letting down more patients and more families, with almost 55,000 people beginning cancer treatment beyond the 62 day target since December 2015.[11]

% of NHS cancer patients starting treatment in 62 days after GP Urgent Referral



Source: NHS England Cancer Waiting Times Database (CWT-db). England only. January 2013 to March 2021. Data accessed August 2021.

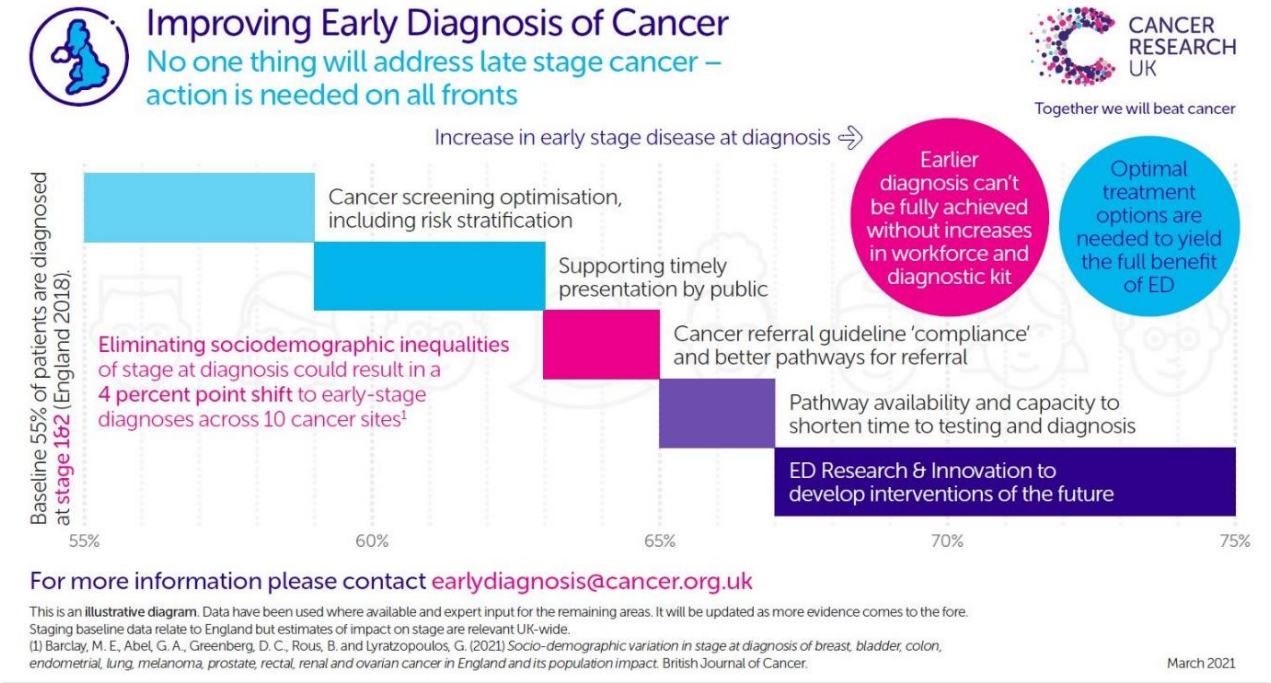
7. Cancer outcomes in the UK also lag behind comparable countries with similar healthcare systems, levels of wealth and comparable data.[12] Research by the International Cancer Benchmarking Partnership (ICBP), a coalition of countries including the 4 UK nations, Ireland, Canada, New Zealand, Australia, Denmark and Norway, shows that the UK significantly lags behind these comparable countries, with cancer patients diagnosed at a later stage and having worse outcomes. We estimate that, to ensure that the UK has world leading one-year cancer survival outcomes by 2030, we have to double the rate of improvement.[13]

8. Challenges facing cancer services have been compounded by the COVID-19 pandemic. The unprecedented disruption resulted in over 36,000 fewer cancer patients beginning treatment in England in the year from the start of the pandemic compared to pre-pandemic[a], with disruption across cancer screening, diagnostic and treatment services.[14] There is also a continuing impact on patients waiting for key diagnostic tests and cancer treatment. The number of patients waiting for an endoscopy in July 2021 was 39% higher than in July 2019, and there was a 23% increase in the number of patients waiting for diagnostic radiology. Overall, the number of

[a] Year from the start of the pandemic refers to April 2020 to March 2021. Pre-pandemic refers to the same months in 2019. Figures have been adjusted for working days where appropriate.

patients waiting for over six weeks for a diagnostic test was six to nine times higher in July 2021 compared to July 2019.

9. To deliver the transformational recovery we need to see in cancer services in order to build back better from COVID-19 and accelerate progress towards the NHS LTP ambition to diagnose 75% of patients at an early stage, we need to see action on all fronts, as shown by the Cancer Research UK 'Improving Early Diagnosis of Cancer Waterfall' diagram below:



10. Expanding capacity in cancer services, by training the workforce of the future and investing in diagnostic equipment, is vital to unlocking this potential – enabling a transformational recovery, improving cancer services, meet increasing demand and putting UK cancer outcomes among the best in the world.

Investing in the cancer workforce

11. While the UK Government has already announced welcome investment in the NHS as part of this Spending Review, which will help address the backlog, investment in frontline services is just one piece of the puzzle. As identified by the Institute for Fiscal Studies and the Health Foundation, a significant barrier to increasing efficiency in the health system and making most effective use of funding to improve outcomes is a lack of key NHS staff.[15]

12. The 'cancer workforce' – healthcare professions crucial to the diagnosis and treatment of cancer – is seriously understaffed following years of underinvestment. Workforce pressures exist across the NHS, with 1 in 10 of all posts in hospital and community health services across the NHS in England were vacant in 2018/19 and it was estimated that, with no action taken, this will rise to around 1 in 7 posts vacant by 2023/24.[16] Workforce shortages are evident among specialties key to the diagnosis and treatment of cancer. The radiology workforce across the UK is now short-staffed by 33% and needs almost 2,000 more consultants to meet safe staffing levels and pre-coronavirus levels of demand for scans. [17] Without more training, investment in new models of care and better retention and recruitment, by 2025 the radiologist shortfall will hit 44%.[18] The

consultant clinical oncology workforce has a shortfall of 17% which could rise to 29% by 2025. This has risen from 10% in 2015. Consultant clinical oncology vacancies are also increasingly difficult to fill, with 55% of posts being open for over a year, compared to 28% in 2015.[19] The medical workforce in England lags behind comparable countries, with the BMA finding that compared to staffing levels in other EU nations within the OECD the medical workforce in England is short of around 49,000 doctors.[20]

13. The impact shortages have on patients is already clear. Due to shortages in the endoscopy workforce, FIT screening for bowel cancer had to be introduced at a less sensitive level in England than in Scotland. This means that more than 1,000 cancers and nearly 7,000 potentially pre-cancerous growths might be missed every year, compared to if England used the same sensitivity level as used in Scotland.[21] The RCR 2020 Clinical Oncology census found that over half (52%) of cancer service leaders reported that workforce shortages have negatively impacted the quality of patient care.[22] A CRUK survey found that 73% of the cancer treatments workforce identified staff shortages as a barrier to providing efficient cancer treatments, excellent patient experience and supporting clinical research.[23]

14. Demand for cancer services is set to grow, prompted by the UK's growing and ageing population, more complex care needs and technological changes including more complex treatments. By 2035, the number of people diagnosed with cancer in the UK is projected to reach over half a million, an increase of more than 40% compared with the number of cases in 2014.[24] Of these, 46% will be over 75 (up from 36% in 2015), meaning that thousands more patients with cancer will be presenting with complex needs.[2526] This will increase the burden on the cancer workforce. Increasing the 'home-grown' healthcare workforce is a long process, with it taking a minimum of three to five years to train newly qualified staff as specialists in key cancer professions.[27] As a result, to transform cancer outcomes, close the gap in cancer survival with internationally comparable countries and meet future demand, investment in the cancer workforce is needed now. This requires clear and visible leadership, to future proof cancer services, backed by long term funding.

15. Based on Health Education England's (HEE) estimate, the NHS in England will require an aggregate growth of 45% in its cancer workforce by 2029 to deliver world-class cancer services.[28,29] Welcome investment was made in the 2020 Spending Review, with £46 million committed to diagnostics and cancer workforce, supporting 245 new training posts in key professions.[30] However, given the impact of the COVID-19 pandemic on cancer services and the cancer workforce, and that a multi-year funding settlement is needed to ensure certainty in planning to grow the cancer workforce to meet patient need, significant further investment will be needed at this Comprehensive Spending Review. In light of this, CRUK has updated previous modelling[31] to understand the additional investment needed. This has used updated NHS workforce figures, as well as capturing the likely negative impact of the pandemic on NHS staff retention and expected challenges to international recruitment given global health workforce shortages and the ongoing global pandemic.

16. **We estimate that Government must invest up to an extra £216 million into Health Education England for cancer at the 2021 Comprehensive Spending Review to meet the 2017 Cancer Workforce Plan target for 45% growth in the cancer workforce by 2029 and deliver world class cancer services. It takes a minimum of three to five years to train newly qualified staff as specialists in key cancer professions. Therefore, increased investment is needed now, and the CSR is the opportunity to deliver this.**

17. Making the best use of the current cancer workforce is important for a transformational recovery from the impact of COVID-19 on cancer services. Adopting skill-mix approaches – where the roles and responsibilities of teams are designed around the needs of patients, rather than traditional professional distinctions – can help align the workforce with the needs of cancer patients and maximise current, limited workforce capacity. Further, innovative new technologies can help make best use of the current cancer workforce, for example by triaging patients to reduce demand in areas suffering from backlogs or to reduce the administrative burden on staff. However, this will not take us far enough. Staff shortages in the cancer workforce are so acute and the scale of the challenge to meet the UK Government's cancer ambitions mean that long-term investment in health workforce education and training will remain vital to improve cancer outcomes. Rather, innovative approaches such as skill mix should be seen as an opportunity to maximise the value of urgently needed investment in workforce education and training, with each reinforcing the impact of the other.

18. **Investing to expand the cancer workforce will not only play a vital role in improving cancer outcomes and help drive innovation but would also have significant economic benefits – playing a central role in the UK Government's levelling up agenda, enhancing the UK's world leading life sciences sector and saving the Exchequer money**.

19. As the largest employer in England, employing 1.5 million people in every corner of the country, the NHS has an unparalleled ability to enhance local economies and drive growth and prosperity.[32] Future trends in demand and supply for healthcare highlights that the NHS will need to employ more people in the future. Analysis by Future Health and WPI Strategy found that more than 775,000 additional jobs in health occupations could be created this decade.[33] Most of those (78%) would be jobs with wages higher than other jobs within UK regions. NHS staff will live and spend their salaries locally, meaning that the economic benefits of the health workforce are felt not just by those employees, but also by the wider community.

20. The NHS provides economic benefit to more deprived areas, meaning that investing in the health workforce can help tackle regional inequalities and support the UK Government's levelling up agenda. There is more variation in wages across the wider economy than within the NHS, meaning that NHS wages are proportionally higher in more deprived regions – a recognition of the highly skilled nature of many roles in the NHS.[34] The NHS Strategy Unit found that the Black Country and West Birmingham Sustainability and Transformation Partnership directly supported 30,800 FTE NHS jobs in the region, with the average NHS wage 26% higher than the average Black Country wage.[35]

21. Due to the premium cost of locum and agency staff and the centrality of a fully staffed and trained workforce to making effective use of other investments, investing in the health workforce is fiscally responsible, rather than simply another cost to be borne. In 2020, health services across the UK spent £128 million on outsourcing the reporting of diagnostic scans – equivalent to the combined salaries of a third of the current consultant radiologist workforce. This has risen over by 58% since 2018.[36] The NHS Confederation and NHSE CEO, Amanda Pritchard, have expressed concerns that due to this, workforce shortages actually cost the Treasury more than recruiting and training the right numbers.[37] Further, the IFS and Health Foundation have found that a lack of qualified clinical staff will be the biggest impediment to making effective use of additional funds, showing how workforce shortages harm the value for money of funding in other areas of health such as well-targeted capital investment.[38]

22. **Investing in the cancer workforce will free up the capacity of the health workforce to carry out clinical research, contributing to England's world leading life sciences innovation that not**

only discovers lifesaving new interventions and treatments but also helps the UK economy thrive.

23. Clinical research in the NHS (pivotal to developing our understanding of preventing, managing and curing cancer) sits right at the heart of the UK's vibrant medical research ecosystem, and cancer research and innovation can play an important role not only in building stronger, more innovative public services but also cement the UK as a scientific superpower. The UK's world-leading life sciences sector has rightly been highlighted in the UK Government's plans to build back better from COVID-19.[39] In 2018, the Wellcome Trust calculated that every £1 invested in medical research delivers a return equivalent to around 25p every year, for ever.[40] CRUK's recent report 'Creating Time for Research' outlined the role the workforce plays in clinical research – if given time.[41] Investing in the stretched workforce can give them the capacity to carry out more research, helping unleash the full benefits of health-related research to the economy.

The UK Government must fill in the gaps of the recent day-to-day NHS funding uplift by investing an extra £216m in Health Education England (HEE) for cancer in the 2021 Comprehensive Spending Review to meet the 2017 Cancer Workforce Plan target for 45% growth in the cancer workforce by 2029 and deliver world class cancer services.

Investing in the equipment and infrastructure to diagnose more cancers

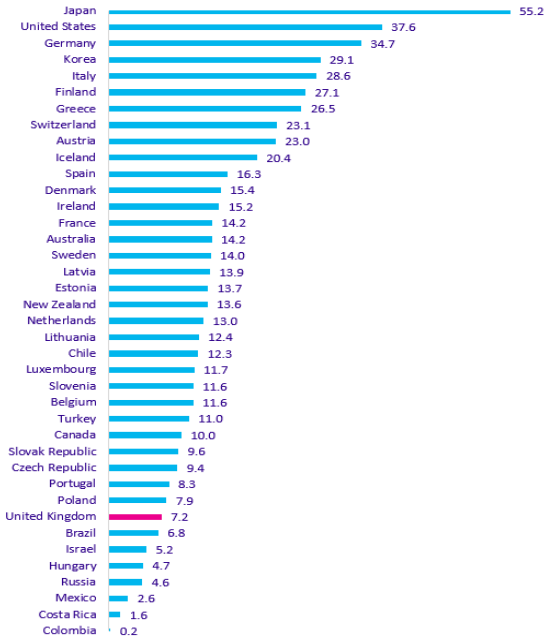
24. Significant, targeted capital investment right across the cancer pathway is fundamental to accelerating improvements in cancer outcomes, by increasing capacity, supporting timely diagnosis and treatment, improving connectivity and enabling transformation programmes.

25. However, the last decade has been marked by underinvestment and a lack of strategic planning for equipment and infrastructure critical to cancer services, with successive spending reviews and budgets providing investment that has plugged gaps but failed to tackle fundamental issues. This approach has hampered effective service-delivery and innovation – in 2019, 95% of trust leaders surveyed said the existing climate of restricted capital funding posed a high or medium risk to productivity and efficiency in the health system.[42]

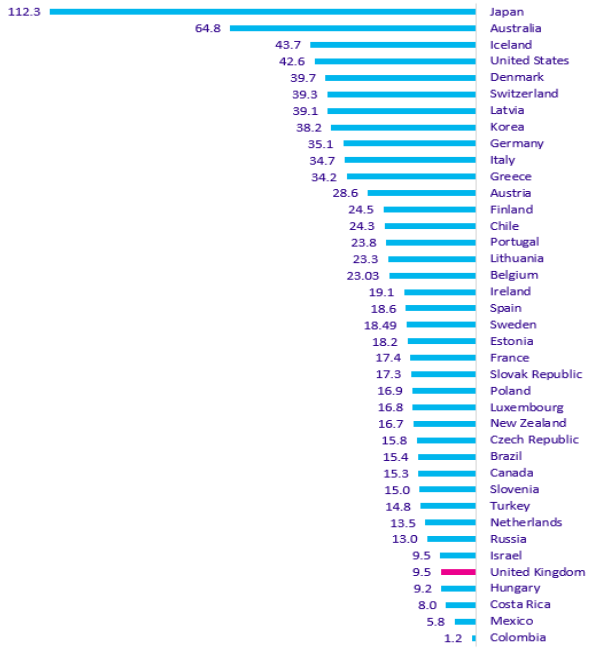
26. To improve diagnostic capacity, support necessary reform and ultimately increase cancer survival rates, investing in the UK's health infrastructure (key diagnostic and treatment equipment, facilities and IT systems) will be vital. The comprehensive spending review offers a crucial opportunity to invest in diagnostic services, tackle the backlog facing cancer services, and provide longer-term investment to transform cancer services to a world-leading standard.

27. Ageing kit is inefficient and delays the smooth running of services. Yet across cancer services, including screening, diagnostics and radiotherapy, outdated equipment and infrastructure continues to disrupt patient care.[43] Older equipment is also less likely to be able to deliver innovative care based on newer technology, slowing the implementation of more effective ways of working. For example, older MRI scanners are less likely to be capable of multiparametric MRI (mpMRI) scanning, hindering application of the 2018 NICE recommendation that mpMRI is the first choice for diagnosing prostate cancer.[44]

MRI units (per million population), OECD countries, 2017 or nearest year



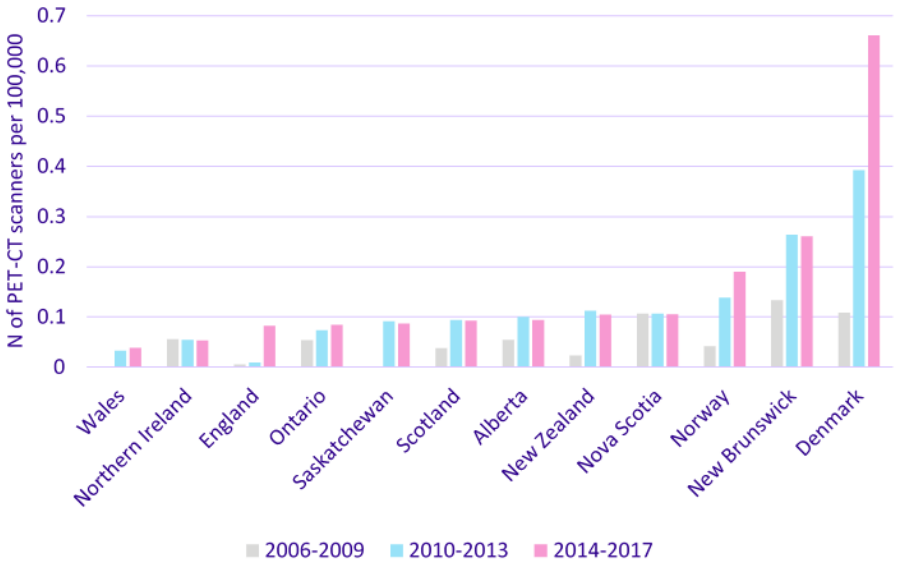
CT scanners (per million population), OECD countries, 2017 or nearest year



Source: OECD, "Health at a Glance 2019: OECD Indicators," OECD Publishing, Paris, 2019.

28. Crucially, replacing equipment alone is insufficient; as a priority, there must be investment in significantly expanding the amount of diagnostic kit. The UK compares poorly internationally, ranking close to the bottom on both the average number of MRI and CT scanners per million population out of 36 OECD countries.[45] PET-CT scanners are considerably more sensitive than CT scanners, with the unique ability to capture anatomical imaging with metabolic activity, allowing for more accurate diagnosis and staging, yet the UK has the lowest number of these machines among ICBP countries relative to population size and has also been slow to acquire them.[46]

Acquisition of PET-CT scanners across ICBP jurisdictions by 2006-2017



Lynch, C. et al. 2021. A comparative analysis: international variation in PET-CT service provision in oncology—an International Cancer Benchmarking Partnership study. International Journal for Quality in Health Care, 33:1.

29. While there has been some encouraging investment in diagnostic equipment in recent years, the Policy Exchange has estimated that a further £1.3 billion is required to bring CT, MRI and PET-CT equipment capacity in line with the OECD average.[47]

30. A significant expansion of diagnostic capacity through new facilities and acquiring new diagnostic equipment would have an immediate impact on the recovery of cancer services, expanding services to help meet the need of the 896,900 patients waiting for a diagnostic radiology test, 17% of which have been waiting over six weeks[b].[48] Investment in imaging would enable the growth diagnostic imaging activity, and also support a transformational recovery for cancer services, using advanced technologies to deliver diagnostics more efficiently and accurately. New, innovative approaches will be critical to furthering progress towards the Conservative manifesto commitment of boosting early cancer diagnosis, and the Long-Term Plan goal of diagnosing 75% of people with cancer early (stage 1 and 2) by 2028.

31. Community Diagnostic Hubs (CDHs) are a new service model in which a single hub, based at NHS sites or other community spaces, provides several services, including imaging, pathology and endoscopy, to diagnose cancer as well as other conditions. This approach introduces a new way of working in diagnostics through consolidating services and maximising resources, increasing productivity, and has the potential to improve access by bringing diagnostic services closer to communities. Critically, extra equipment is required to fully operationalise CDHs. Health services are already using the necessary kit at full capacity, and so cancer service productivity will not significantly improve without further resourcing.

32. The roll out of CDHs has started with a first wave – but even considering some contribution from the independent sector, to fully and optimally roll out CDHs across the country will require significant further financial investment at the upcoming spending review – likely to be in the billions. The UK Government must ensure that sufficient funding is provided to fully implement the CDH model in the 150 sites committed to across England in coming years.

33. Endoscopy is crucial for the diagnosis of some cancers. Underinvestment in endoscopy infrastructure has led to a reliance on older rooms with poorer air exchange, which because of COVID-19 has meant more time must be left between patient appointments, exacerbating the challenge of growing waiting lists and hindering timely diagnosis.[49] A lack of capacity has also impacted optimisation of the bowel screening programme, an initiative committed to in the NHS Long Term Plan, with progress slowed to ensure that endoscopy services are not overwhelmed.

34. There are significant concerns that the impact of COVID-19, particularly infection control measures, means current endoscopy capacity will be unable to meet the demand required to clear the backlog. In July 2021, there were 176,700 patients waiting for an endoscopy in England, with the number of patients waiting over six weeks six times higher than pre-pandemic[c].[50] To reduce these waiting lists in the short-term, expanding endoscopy services (including workforce as well as infrastructure) will be critical. The Richards review of diagnostic services estimated that 200 new endoscopy rooms across the NHS in England are needed to cover current growth in endoscopy and enable the planned expansion to the bowel screening programme.[51]

[b] July 2021 data, all patients waiting for a radiology test (MRI scans, CT scans, non-obstetric ultrasound)
[c] July 2021 data, compared to June 2019, all patients waiting for an endoscopy test (colonoscopy, cystoscopy, flexi sigmoidoscopy, gastroscopy)

35. There is great scope to modernise cancer services through digital innovation. Sharing slides virtually rather than physically has the potential to transform our approach to pathology. One cancer centre with a digital pathology centre of excellence has successfully piloted the use of digital technology to scan slides in labs, reducing turnaround times and utilising expertise nationally, maximising limited capacity among the pathology workforce.[52]

36. Networking services will also help to improve system resilience. Imaging networks are currently in development across England which allow specialist clinicians to interpret images across regions whilst patients are cared for near home, and it has been widely recognised that quality IT systems which support interconnectivity are critical to this.[53] England's eleven radiotherapy networks have the potential to help facilitate timely access to this treatment and reduce regional variation.[54]

37. However, at present, digital capabilities are far below what is required for a seamless digital pathology system and effective networking, meaning these innovative approaches cannot be put into widespread practice.[55] Central investment for IT and digital capabilities must be made available to meet ambitions for a digital health service and accelerate the efficiencies and benefits to patient care that technological innovations offer.

38. In late 2019, the Richards review of England's adult screening programmes highlighted that constraints on capital funding stopped trusts from replacing equipment such as mammography machines and mobile vans used for screening.[56] In some cases, this meant mobile vans over 17 years old with leaking roofs were still in operation, demonstrating the clear need for investment to replace current stock.

39. The current stock of linear accelerators (LINACs) used for radiotherapy are ageing. It is concerning that, even following significant investment in LINACs through the 2015-20 Cancer Strategy for England, it is still being reported that up to one fifth are in use past their lifespan.[57] Consideration should be given to introducing an annual national capital fund for radiotherapy services, as recommended in the 2015-20 Cancer Strategy for England.

40. Over the long-term, consideration must be given to how to manage funding to expand access to cutting-edge technologies that will improve the efficacy of treatments. For example, MR-LINACs, which significantly increase precision, and therefore effectiveness, in radiotherapy, are currently in a limited supply in the UK, and all are based in England.[58]

41. Critically, investment in the kit, equipment, and infrastructure which is crucial to cancer services must take a long-term approach. Spending commitments to date, including £325m in new diagnostic equipment at the 2020 Spending Review, are welcome.[59] However, this has not provided a strategic approach to capital investment across the country, which funds maintenance, expansion and the introduction of innovative equipment on an ongoing basis.

42. In the short-term, replacing and expanding diagnostic equipment will significantly boost the capacity of cancer services. With full funding, this will help reduce the backlog and deliver a transformational recovery through introducing more efficient equipment and different ways of working. In the future, investing in new technology and interoperable IT systems will help ensure cancer services are agile, able to adapt to innovation, and can continue progress towards important cancer ambitions of improving early diagnosis and survival rates. Without immediate action and long-term investment, it will most likely be impossible transform UK's cancer services to improve early cancer diagnosis and ultimately increase cancer survival rates.

43. Capital investment must be part of wider efforts to maximise capacity, including investing in the cancer workforce. There is a significant risk that the benefits of capital investment will not be fully realised if there is not a strong cancer workforce in place, with both areas critical to transforming UK cancer services to a world-leading standard.

The UK Government must **ensure that funding is provided to expand diagnostic capacity and fully implement the recommendations of the 2020 Richards review of diagnostic services in the 2021 Comprehensive Spending Review,** including:

- **Implementing the Community Diagnostic Hub model** in the 150 sites committed to across England in coming years.
- **Invest the £1.3 billion in capital funding required to bring CT, MRI and PET-CT equipment capacity to the average across comparable OECD countries**.
- **Provide the NHS with the capital investment to expand endoscopy capacity** by the estimated 200 extra endoscopy suites needed to meet patient demand, both across current diagnostic services and within Community Diagnostic Hubs.
- Greater central investment for IT and digital capabilities must also be made available to deliver a modern, digital health service and harness the efficiencies and improvements to patient care that technological innovation offer.
- **Investment must be accompanied by a national strategy for maintaining and expanding equipment in diagnostic and treatment services, so that every patient across the country has speedy access to cancer services.**

Cancer as a catalyst to cementing our status as a science superpower

44. CRUK plays a significant role in the UK's cancer research landscape by funding around half of all non-commercial cancer research in the UK and investing in a network of 90 research institutions in more than 40 towns and cities across the country. CRUK, like other medical research charities, is also a strong collaborator with industry, drawing investment and talent into the UK science base. To date, CRUK's commercial partnerships have brought 11 drugs to market that have treated hundreds of thousands of cancer patients around the world, and our spinout companies have collectively leveraged more than £2.3 billion of external investment into the UK cancer research environment60 61.

45. The UK Government's Plan for Growth identifies world-class research and innovation in the UK as being pivotal to meet modern challenges and thrive[62]. Just as science is our route out of the pandemic, science is our route to beating cancer. In fact, the Prime Minister has tasked the UK Government to use the scientific success of the UK's approach to vaccines to tackles other priorities, including "curing cancer and not only treating it"[63]. As the UK's strongest area of clinical research,[64] cancer research offers opportunities to deliver the 2019 Conservative manifesto's commitment to "increase cancer survival rates",[65] accelerate economic growth to build back better, and capitalise on this area of strength to cement the UK's status as a science superpower.

46. Public investment in Research & Development (R&D) currently stands at £14.9bn a year (2020-21) and further increases to reach this target will be needed to fulfil the UK Government's science and research ambitions. A comprehensive plan that includes stable year-on-year increments will be pragmatic to ensure research funding is put on a sustainable footing. This investment will help the UK realise the potential of the UK Government's Life Sciences and

Clinical Research Delivery Visions, secure the future success of the nation's world-leading research universities, and put Global Britain into action by forging new scientific partnerships across the world.

47. **To realise these ambitions, the UK Government must fulfil its commitment to increase annual public investment in R&D to £22 billion by 2024-25.**

Delivering the UK Government's Vision for a thriving life sciences sector

48. With over 500,000 people expected to be diagnosed with cancer in 2035,[66] the Life Sciences Vision is correct to prioritise cancer as one of its healthcare missions. This comes at a critical time for cancer survival in the UK, which for the first time in generations could go backwards. Turning the Vision into a reality will require investment by the UK Government, including the bids made by DHSC and the Office for Life Sciences, which we strongly support. Delivering the Vision will also require collaboration and partnership across the life sciences sector – government, academia, industry and medical research charities.

49. The focus on early detection and diagnosis of disease in the Vision is welcome as it plays a crucial role in improving cancer survival rates. As well as the survival benefit, there is a globally rising tide of industrial and private finance interest in this space. However, the field is beset by a lack of research funding and infrastructure, and a market failure/lack of industry investment due to excessive R&D costs, high regulatory barriers and an undervaluing of early detection technologies by the health system. CRUK's Early Detection and Diagnosis of Cancer Roadmap sets out the actions that can be taken, including by the UK Government, to address these barriers so the UK can realise its potential to be a global leader in early detection and diagnosis[67]. Showing this leadership, including through investment, will be critical to deliver the NHS Long Term Plan's goal of diagnosing 75% of cancers at an early stage by 2028, and also to create a thriving sector in the UK economy.

50. The Vision's championing of health data's potential for research is similarly encouraging. Without access to high-quality, comprehensive and timely data, world-leading UK cancer research that improves patient outcomes wouldn't be possible. It is therefore vital that the UK Government affords sufficient priority and investment to improve data collection, linkage and infrastructure in the health service whilst maintaining high levels of public trust, transparency and engagement. Significant additional investment will be needed to transform the quality, utility and availability of data to unlock the UK's full potential to deliver world-leading clinical research and wider R&D.

51. The endorsement of clinical research and the invaluable contribution it makes to patient outcomes is also welcome. Below, we set out how the UK Government can leverage the public's enthusiasm for research[68-69] and investment through the Spending Review to expand the NHS's capacity to conduct life-saving clinical research.

52. **To deliver the Life Sciences Vision and its commitments to people affected by cancer, UK Government must work in partnership with the whole life sciences sector and ensure the Spending Review provides sufficient investment to back up the Vision's ambitions.**

Fulfilling the UK Government's vision for clinical research

53. COVID-19 has raised public awareness of clinical research's vital role in delivering health innovation to a record high, with 78% of the public now wanting research to be part of the NHS's

routine care.[70-71] The public's support for NHS research is well warranted, as evidence shows that NHS Trusts with higher levels of clinical trial activity have lower levels of patient mortality and receive better Care Quality Commission ratings.[72]

54. Despite these benefits, the NHS faces persistent and significant obstacles to expanding its capacity to conduct ground-breaking research and generate life-saving health innovations. Our report Creating Time for Research found that the most common of these barriers is a lack of protected time for research, which affected 64% and 51% of surveyed NHS staff working in research-inactive and -active NHS organisations respectively.[73] Whilst many factors contribute to this scarcity of time, the primary cause is a lack of resources, with 60% of surveyed NHS research directors saying there is insufficient funding to support NHS research.[74] These barriers disproportionately impact staff in professions that are under-represented in research, which limits the NHS's overall capacity to conduct research. For instance, 36% of nurses and midwives reported difficulties in getting sufficient research training compared with 25% of doctors.[75] NHS staff agree that increasing the provision of training would help develop the NHS's ability to innovate, with 85% of those surveyed saying that research training would enable more staff to participate in research.[76]

55. Our report also identified regional disparities in research activity, which interviewed NHS staff agreed were the result of research funding being "skewed towards larger Trusts/Health Boards with established research capacity and expertise."[77] The consequences of these gaps in support are reflected in the National Cancer Patient Experience Survey's data on patient access to research. In 2019 cancer patients in the North West and South West London Cancer Alliance were 71% more likely to be asked if they would want to take part in cancer research than cancer patients in the Cheshire and Merseyside Cancer Alliance (39.5% vs 23.0%).[78] Because research activity has a positive influence on the quality of care received by patients,[79] these research disparities risk undermining the UK Government's efforts to level up health outcomes across the UK. Overcoming these obstacles to NHS research is therefore crucial to fulfilling the potential of the Clinical Research Delivery Vision, delivering the manifesto commitment to "increase cancer survival rates",[80] and realising the UK Government's ambition of making the UK a science superpower.

56. To achieve these goals, the UK Government must draw on the expertise and infrastructure of the National Institute for Health Research (NIHR). Firstly, the NIHR plays an integral role in delivering health research, improving patient outcomes, and upskilling the NHS workforce. In 2020/21 alone, over 1.3 million patients were recruited to research studies in England supported by the NIHR's Clinical Research Network (CRN),[81] providing patients with opportunities to access state-of-the-art care. These NIHR-supported studies also benefit the NHS workforce, as staff that participate in research experience higher levels of retention and wellbeing.[82] The CRN, and the NIHR investment that builds and maintains it, is a crucial reason why the UK is Europe's leading country for phase I clinical trials, which shape the scientific agenda by testing the latest health innovations.[83] Secondly, the NIHR is an engine for innovation-led economic growth, serving as the foundation to a life sciences sector that generates £80.7 billion of annual turnover and employs over 256,000 scientists and staff across the UK.[84] In 2018/19 alone, clinical research supported by the NIHR's CRN created £2.7 billion in Gross Value Added and provided over 47,000 high-skilled jobs.[85] And in 2016-17, every £1 spent by the NIHR leveraged £1.05 of additional investment from industry.[86]

57. Yet despite its essential role in spurring health innovation and the economy, the NIHR's budget has remained largely flat for four years. Investing in UK health research by uplifting the NIHR's budget would provide the funding needed to unleash a number of initiatives that will expand the

NHS's research capacity and deliver the Clinical Research Delivery Vision. This uplift could be used to give more NHS staff contracts that include dedicated research time, thereby increasing the NHS's capacity to deliver life-saving research.[87] An uplift could also allow the NIHR to invest more in upskilling the NHS workforce by funding training programmes that develop the confidence, expertise and capacity of NHS staff to deliver research.[88] Additionally, increased investment via the NIHR would be a catalyst for levelling up patient outcomes across the UK by providing the funding needed to develop new research infrastructure in regions that are under-served by health research.[89]

58. **If it is to fulfil the potential of its Vision for the Future of UK Clinical Research Delivery, the UK Government must increase its investment in health research at the Spending Review by uplifting the NIHR's budget and committing to future funding uplifts in order to secure the UK's position as a science superpower.**

Investing sustainably in medical research in our world-leading universities

59. To strengthen the UK's standing as a science superpower, the spending review must recognise all elements of the nation's vibrant research ecosystem and support them to thrive. One of the key strengths of UK life sciences is the diverse research base – a combination of public, private and charitable funding sources supports innovation by fostering a network of expertise and enabling a wide range of projects with diverse risk profiles. This creates a high-quality, globally competitive medical research environment and serves as a magnet for international talent.

60. Universities are an integral part of the UK's science base, bringing together academic expertise and research funders to produce ground-breaking research that promotes innovation-led economic growth. Charities work in partnership with universities to deliver high-quality research. For instance, 93% of medical research charity grants go to universities, including NHS-affiliated institutions,[90] to fund life-saving research studies like the National Lung Matrix Trial.[91] Ensuring research is put on a sustainable footing in UK institutions is important to the health of the R&D base. It is crucial that charities are part of discussions about the long-term sustainability of research in universities.

61. As the UK Government make progress towards their commitment to spend £22bn on public R&D by increasing research investment, it is vital this includes increases to the Quality-Related (QR) research funding component of the dual support system, including its charitable element, the Charity Research Support Fund (CRSF).

62. QR funding is crucial to sustaining our world-leading science base because its un-hypothecated funding enhances the stability and autonomy of universities. This science base is crucial to enhance the UK's innovation landscape and support the commercialisation of research. By investing in science through the dual support system, Government leverages additional investment from charities and industry, generating further scientific and economic growth.- For every £1 spent by the Government on R&D, private sector R&D output rises by 20p per year in perpetuity.[92]

63. The CRSF is an important component of non-mainstream QR research funding. Universities receive the CRSF from UK Government to cover indirect costs of research, such as the costs of maintenance of equipment and infrastructure in laboratories, which charities cannot pay because their supporters expect donations to be spent directly on research activity[93].

64. Modest uplifts through Research England to underpinning mainstream QR funding and the CRSF in recent years are a positive first step. However, these modest uplifts come after many years of decline in real terms value. Analysis shows that QR funding has declined by 14% in real terms in the last ten years[94]. Before the uplift, the CRSF had been fixed at £198 million since 2010. Inflation and increased investments from charities has caused the value of the fund to fall from 28p of CRSF received by universities for every £1 of charity investment in 2010/11 to less than 20p per £1 in 2019/20[95]. The uplift of the CRSF to a value £204 million is a positive step but it is vital support for the CRSF continues to be maintained and enhanced and that universities and charities are engaged so that it operates effectively for all parts of the diverse research ecosystem.

65. **To ensure the long-term sustainability of university medical research, it is vital that the UK Governments commit to increasing investment in QR funding, including the charity element.**

Forging new scientific partnerships to advance Global Britain

66. As COVID-19 has shown, international collaboration is crucial for pooling ideas, resources and talent for maximum benefit. Cancer is one of the world's greatest challenges, and no one country can solve it alone. With nearly half of all UK cancer research[96] and 42% of CRUK-supported clinical trials being international, global scientific partnerships are essential to increase cancer survival rates through research.

67. As we approach the US-UK Cancer Summit that the Prime Minister and President Biden announced in the summer, the Spending Reviews presents a unique opportunity for the UK Government to leverage the UK's status as a world leader in cancer research[97] and forge new global scientific partnerships.

68. CRUK is inviting the UK Government to join us in a unique, global initiative to tackle one of humanity's greatest challenges through cutting-edge research and innovation: Cancer Grand Challenges (CGC). Already backed by the US National Cancer Institute's commitment of $225 million, CGC is an opportunity for the UK to advance its Global Britain agenda and secure the ambitious status of "Science and Tech Superpower by 2030".

69. The proposed partnership offers enormous gains for scientific discovery as well as commercial opportunities, while further deepening a crucial bilateral relationship. The programme has already funded seven international teams, including the IMAXT team who are developing the first virtual reality map of cancer – an entirely new way to study a tumour – which could revolutionise the diagnosis and treatment of the disease[98].

70. We are requesting a Government contribution of £120 million over six years (3 funding rounds) – matching CRUK's own investment – with which the UK Government could set a powerful, high profile example of a UK/US partnership and of post-Brexit Britain leading the world in scientific endeavour. UK investment would cement our position as a leader in cancer research and accelerate progress towards ground-breaking cancer treatments.

71. **We ask that the UK Government partner with CRUK's Cancer Grand Challenge initiative through match funding as a powerful, high profile example of a post-EU exit global scientific partnership. UK Government investment would accelerate and amplify the impact of CGC and further cement the UK on the global stage as a leader in cancer research.**

Delivering a Smokefree 2030 Fund and investing in public health to level up and address health inequalities across the UK

72. Preventable disease and mortality continue to have a massive impact on our nation's health, health services and economy, and this has only come into sharper focus since the emergence of COVID-19. The prevention agenda should be key to our recovery. The burden of preventable risk factors for cancer like tobacco, obesity and alcohol meant the UK did not go into the pandemic fighting fit, and in the case of obesity, is associated with a higher risk of adverse outcomes from COVID-19.[99,100]

73. The new Office for Health Improvement and Disparities will be key in driving the levelling up agenda given their ambition of tackling health inequalities across the country,[101] however it is unclear how this will be achieved without proper public health investment at a national, regional and local level.

74. Now more than ever, investment is needed in disease prevention to improve the nation's health, and to help the UK Government achieve its levelling up ambitions. An estimated 27,200 extra cases of cancer each year in England are attributable to socioeconomic deprivation, because incidence rates are higher in more deprived populations compared to the least deprived.[102]

Why is action on tobacco control needed?

75. The UK Government has set out a welcome vision for England to be smokefree[d] by 2030.[103,104] This will bring about many benefits to people and to the economy, particularly in areas of high deprivation where smoking rates are stubbornly higher and cuts to public health funded stop smoking services, are more harshly felt. [105,106] This Spending Review and Budget must set out plans to fund tobacco control measures across the UK so we can support those who need help the most.

76. Smoking rates have continued to decline thanks to decades of successful action on tobacco control, however, the latest pre-pandemic data shows that in 2019, adult smoking prevalence across the UK was still at 14.1%. Of the UK constituent countries, 13.9% of adults in England, 17.6% of adults in Wales, 17.0% of adults in Scotland and 17.5% of adults in Northern Ireland smoked.[107,108,109,110] What's more, tobacco remains the largest preventable cause of cancer and death in the UK.[111,112]

77. On top of this, while some evidence suggests that a large number of people who smoke have attempted to stop during the COVID-19 pandemic,[113,114] smoking among young adults increased by 25% (from 21.5% to 26.8%) in England during the first lockdown – equating to 652,000 more young adults smoking compared to before the pandemic.[115] This increase shows there is no room for complacency when it comes to tackling tobacco.

78. Smoking also continues to harm the economy in England, costing society around £12.5 billion per year; £2.4 billion of which falls on our NHS, £883.5 million on social care (£720 million of these social care system costs are funded directly by local authority social care budgets), £8.9 billion as a result of lost productivity due to smoking and £324.5 million from the cost of fires caused by smoking.[116] An analysis also shows that when expenditure on tobacco is taken into account, 500,000 extra households – including 330,000 children – are classified as being in poverty in the UK compared to the official Households Below Average Income figures.[117] People in England spend roughly £8.6 billion on tobacco products each year, equating to around £2,050

[d] "Smokefree" is defined in the 2017 Tobacco Control Plan for England as adult smoking prevalence being 5% or lower.

per person who smokes. Of the total expenditure, £6.8 billion is collected by the Treasury. However, despite this extra revenue, tobacco still costs the community in England twice as much as the duty raised, having a net additional cost to society of £5.7 billion.[118] Action to tackle tobacco nationally, regionally and locally is therefore vital to reduce the impact of smoking and tobacco-related disease on public services, including the NHS and social care services, the local economy and residents.

79. If the UK Government is to achieve its levelling up ambitions, addressing tobacco inequalities will be key. Due to higher rates of smoking among the most deprived,[119,120] smoking is one of the leading causes of socioeconomic health inequalities in England, [121] and accounts for approximately half of the difference in life expectancy between the lowest and highest income groups. [122] It is estimated that there are nearly twice as many smoking-attributable cancer cases in the most deprived group compared to the least deprived in England. If everyone had the same smoking prevalence as the least deprived group, it is estimated that around 5,500 deprivation-associated cancer cases could have been prevented each year between 2013-2017.[123] What's more, further CRUK modelling suggests that relative smoking inequalities are projected to widen without appropriate action across the UK – meaning lower socioeconomic groups will face a larger burden from smoking related disease relative to less deprived groups.[124] The stark differences in smoking prevalence across the country is already an issue highlighted by the Chief Medical Officer in his 2021 Annual Report – which showed that for instance 23.4% of adults smoke in Blackpool, which rises to 37% in adults with routine or manual jobs.[125]

80. Our analysis has found that, based on 2018 data, England is not on track to deliver the UK Government's smokefree ambition by 2030.[126] In fact, the modelling predicts adult smoking prevalence in England will not reach 5% until 2037, and the pace of change needs to be around 40% faster than projected to deliver this ambitious target. Moreover, only the least deprived quintile in England is estimated to be smokefree by 2030, while the most deprived quintile won't reach this target until the mid-2040s. Similar findings are also seen for Scotland, Wales and Northern Ireland; with no nation projected to reach 5% adult smoking prevalence before 2037, and some projected to still be above 5% in the 2040s.

81. This highlights the fact that to reach smokefree targets and level up we need bolder and more ambitious action on tobacco control. The upcoming Tobacco Control Plan for England[127] – expected later this year – provides a real opportunity to set out a comprehensive plan of action that will help us effectively address the burden of smoking and reach the UK Government's 2030 smokefree target for England. But without additional and sustainable funding, it will not be possible to deliver all the measures needed for this to be effective.

82. Funding for local, regional and national tobacco control activities in England has been significantly cut in recent years which will undermine the UK Government's Smokefree 2030 ambition and pending Tobacco Control Plan unless remedied urgently. National spending in England on public education campaigns for instance has dropped from a peak of £23.38 million in 2008/9 to just £1.99 million in 2017/18.[128,129] Furthermore, in the seven years from 2013/14 to 2019/20, total local authority spending on stop smoking services and tobacco control in England fell by 43.3% from £148.5 million to £84.2 million.[130] These cuts, which are in part due to cuts to the public health grant,[131] have meant that only 62% of local authorities in England commissioned a specialist service open to all local people who smoke in 2020.[132]

Why a Smokefree Fund

83. As outlined in the 2019 Green Paper 'Advancing our health: prevention in the 2020s',[133] the UK Government is exploring options for raising funds from the tobacco industry via a 'polluter pays' principle. Tobacco is the only consumer product that is lethal when used as intended, killing up to half of all users in the long term.[134] Tobacco manufacturers are also highly profitable, making over £1.5bn of profits in the UK per annum in recent years.[135] A 'polluter pays' approach to raising funding for tobacco control would help us to achieve a smokefree future with industry funds but without industry interference.

84. Alongside Action on Smoking and Health (ASH) and others in the public health community, CRUK have proposed that the UK Government introduces a fixed annual charge on the tobacco industry, making the tobacco industry pay for the damage their products cause, but without letting them influence how the funds are spent. Funds generated from this charge, which would be administered by the UK Government, should be used to help deliver the necessary components for tobacco control to achieve smokefree targets across the UK.

85. ASH has estimated that £265.5 million would be needed to pay for national, regional and local tobacco control activity in England, which increases to £315.2 million for UK-wide measures.[136] But it is important that the fund is introduced as an additional source of funding to the restoration of the public health grant to support other vital public health measures and tobacco control measures until the fund is implemented (see section below).

86. CRUK's recent report, 'Funding the Smokefree Generation', explored stakeholder views on why a dedicated tobacco control fund is needed and how one could be implemented.[137] This concluded that there is a clear need to establish a dedicated tobacco control fund if smokefree targets are to be met. Whilst stakeholders presented different revenue-raising methods (such as raising excise tax and charging the tobacco industry) - each with their own merits and disadvantages - they agreed that action was essential and should not be delayed. In addition, regardless of the exact mechanism chosen for the fund, we identified that the fund should follow some key principles:

    a. Raises a predictable and sufficient amount, allocated yearly, to fund a comprehensive tobacco programme.

    b. Funds comprehensive tobacco control strategies which are focused on preventing people from starting to smoke and helping them to stop rather than treating smoking-related disease.

    c. Does not replace current funding streams which allow the NHS to treat smoking related disease.

    d. Has a key focus on tackling smoking-related inequalities.

    e. Is run in an independent and transparent way, using the right expertise and without any interference or input from the tobacco industry.

    f. Is distributed in a fair and proportionate way nationally between the UK nations, and regionally between local authorities.

87. It is also important that the governments of Scotland, Wales and Northern Ireland work with the UK Government on setting up the fund; opt-into the fund; and ensure that the revenue raised goes to tobacco control measures.

88. Reaching a smokefree future is essential if we want to reduce preventable illness, avoidable death and health inequalities in the UK. **However, the 2030 smokefree target for England will not be met unless the UK Government is able to find a sustainable source of funding needed to deliver a comprehensive tobacco control programme**. A Smokefree fund should be set up to run until smokefree targets are met. It should be introduced as an additional source of funding to the restoration of the public health grant, which is not only required in the long-term for public health functions other than tobacco control, but is also essential for tobacco control activities in the short-term, until a legislated fund is secured and implemented in practice.

What measures should a Smokefree Fund go towards

89. **Revenue generated from a Smokefree Fund should be solely spent on tobacco control measures across the UK to prevent people from starting to smoke and supporting those that already do, to stop. Funding for regional and local tobacco control should also be awarded in line with need, e.g. the number of people who smoke and inequality indicators, to help address tobacco-related health inequalities.** CRUK propose that the fund should be prioritised to support:

    a. **Tobacco control across England as well as Scotland, Wales and Northern Ireland** to help the respective governments work towards smokefree ambitions.

    b. **Local tobacco control functions,** including ensuring evidence-based and effective specialist stop smoking services are not only available to all but also promoted and targeted to high-prevalence groups to promote cessation and reduce health inequalities. People who use local stop smoking services, which provide a combination of behavioural support and prescription medication (also known as pharmacotherapy), are around three times more likely to stop smoking successfully than those attempting to quit unaided.[138,139] Yet in 2020, 77% of local authorities in England commissioned a specialist stop smoking service and only 62% commissioned a specialist service open to all local residents who smoke.[140] The shift away from specialist services may save money in the short term but puts effective smoking cessation support at risk. This could cost local authorities and the wider economy more in the long term due to the cost of treating and caring for people with smoking related disease.[141]

    c. The delivery of **regional tobacco control functions** to promote action across a larger footprint. This would include running regional public education campaigns highlighting the harms of tobacco and benefits of stopping smoking. Sufficient resource should also be allocated to trading standards staff who monitor and enforce illicit tobacco regionally which may disproportionately affect poorer communities and young people. Regional tobacco control programmes support localities to deliver reductions in smoking prevalence and smoking-related health inequalities.

    d. Resourcing **national tobacco control functions**, including public education campaigns. Anti-tobacco mass media campaigns can be highly effective[142,143,144] in motivating people to stop smoking and discouraging uptake, and cost-effective,[145] but they must have sufficient intensity and be sustained to see continued benefit[146] - yet national spending in England on public education campaigns has fallen in recent years.[147,148]

e. **Rapid-response policy analysis** to monitor the progress being made in tobacco control and evaluate the impact of interventions on smoking and smoking-related health inequalities.

90. A lack of appropriate action by the UK Government to adequately fund these measures will greatly threaten the achievability of smokefree ambitions. This could also undermine the success and sustainability of the NHS Long Term Plan commitment to treat people who smoke in secondary care.[149] Indeed, whilst the Long Term Plan commitment would support inpatients for a limited period during and after their hospital admission, this will only be effective if locally commissioned smoking cessation services are available to provide follow-up support when they return to the community.

Why the public health grant for England cannot be left behind

91. Since assuming responsibility for public health and prevention services, councils have had to operate within an increasingly challenging funding environment. Since 2015/16, local authorities in England have experienced a sustained programme of cuts - which severely compromises their ability to provide the vital functions and services that prevent ill health. These cuts have particularly affected the most deprived local authorities. Research shows the ten most deprived local authorities in England have lost approximately 35p in every £1 of their budget, compared to approximately 20p in every £1 of their budget cut in the ten least deprived when comparing the 2014/15 grant to the 2019/20.[150] Analysis from the Health Foundation also showed that while the £45 million increase to the public health grant for 2021-2022 was welcome, it represents a 24% cut – equivalent to almost £1 billion – on a real term per capita basis compared to 2015/2016.[151] Unpublished updated analysis by the Health Foundation further estimates that to restore the public health grant to its historic real term per capita value and account for both cost pressures and demand levels, restoring £1.4 billion a year in 2021/22 price terms by 2024/25 would be required.

92. These funding cuts have directly impacted the delivery of local functions and services that prevent ill-health, despite them being among the most cost-effective interventions available:

    a. Stop smoking services are highly effective in supporting people to stop smoking,[152,153] yet in 2020, only 62% commissioned a specialist service open to all local residents who smoke in England.[154] Funding pressures mean local authorities are not only unable to deliver treatment services as they should, but this also threatens the delivery of local stop smoking campaigns and enforcement activity aimed at preventing underage tobacco sales and tackling illicit tobacco.

    b. The best evidence for weight loss outside of surgery comes from clinical interventions, such as weight management programmes.[155,156] We welcome the recent investment in weight management, however, to be effective – local authorities will need to be provided with sustainable public health funding to ensure they can continue to deliver these and other vital services.

    c. The number of high-risk alcohol drinkers rose by 64% in lower socioeconomic groups during the first lockdown compared to before the pandemic, indicating that lockdown may have exacerbated existing inequalities.[157] This reinforces the need for better access to support for at-risk drinkers, provided at a local level.

93. The UK Government should provide sustainable investment for local public health functions in England. This is needed to level up health inequalities, channel funding directly into local communities that need it most, contribute to the long-term sustainability of the NHS by reducing the burden of preventable disease, and put the UK on the front foot when it comes disease prevention. At a minimum, this means restoring £1 billion per year to bring local government public health funding to 2015/16 levels, though ideally £1.4 billion a year in 2021/22 price terms by 2024/25 is needed to account for both cost pressures and demand levels based on Health Foundation analysis.

94. Investment in local public health services must, in turn, be supported by investment in national and regional prevention and health improvement functions in order to drive meaningful and strategic change across the country.

Strengthening the UK's leadership in the fight against cancer globally

95. The burden of cancer and other Non-Communicable Diseases (NCDs) is highest in low and middle income countries (LMICs), and represents a major cause of poverty and a barrier to economic and social development. Around 70% of global deaths are attributable to NCDs, and 86% of premature NCD deaths occur in LMICs. Furthermore, the global burden of NCDs is expected to increase by 17% to 2025.[158] Cancer alone is a leading cause of chronic-disease related death in the world, leading to one in 7 deaths, more than AIDS, tuberculosis, and malaria combined.[159]

96. However, 4 in 10 cancers are preventable and the Comprehensive Spending Review presents an opportunity for the UK Government to invest in international cancer prevention to provide global leadership in tobacco control and the elimination of cervical cancer. This includes the integration of cancer prevention into the Global Health pillar of the Foreign, Commonwealth & Development Office International Development Strategy, and the associated Ending Preventable Deaths and Health System Strengthening Action Plans.

97. Tobacco Control: Tobacco kills 8 million people each year globally. 80% of the world's tobacco users live in low- and middle-income countries where lack of regulation of tobacco products perpetuates existing health and economic inequalities.[160]

98. The UK Government should therefore continue to invest in, and champion, the World Health Organisation (WHO) Framework Convention for Tobacco Control (FCTC). This includes the continuation of funding for the FCTC30 programme which assists countries with the greatest need to introduce tobacco control policies and investing in capacity within the Department of Health and Social Care to represent the United Kingdom as focal points for the Secretariat.

99. Elimination of Cervical Cancer: Few diseases reflect global inequities as much as cervical cancer. Over 90% of cervical cancer mortalities occur in low- and middle-income countries, and without preventative measures, mortality is expected to increase 50% by 2040.[161] As an international exemplar of cervical cancer screening and HPV vaccination coverage, the UK is well positioned to support the WHO's commitment to eliminate cervical cancer as a global public health problem. The UK Government should build on the UK's world-leading support of GAVI and ensure that this investment is translated into greater access and uptake of cervical cancer services through accompanying investment in the integration of cervical cancer preventative services into adolescent and women's health services, and providing means to monitor and evaluate this

work. With the anniversary of the WHO's cervical cancer commitment approaching, the time is opportune to position the UK as a champion of the global cervical cancer agenda. In doing so, the UK Government would be able to build on a strong record in Global Health to deliver on its commitments to the UN Sustainable Development Goals and those made at the G7 to reduce inequality in healthcare access.[162]

References

[1] Ahmad AS, Ormiston-Smith N, Sasieni PD. Trends in the lifetime risk of developing cancer in Great Britain: comparison of risk for those born from 1930 to 1960. Br J Cancer. 2015 Mar 3;112(5):943-7. doi: 10.1038/bjc.2014.606. Epub 2015 Feb 3. PMID: 25647015; PMCID: PMC4453943.

[2] Cancer Research UK. 2021. Cancer Survival Statistics. Accessed September 2021 via https://www.cancerresearchuk.org/health-professional/cancer-statistics/survival. Quaresma M, Coleman MP, Rachet B. 40-year trends in an index of survival for all cancers combined and survival adjusted for age and sex for each cancer in England and Wales, 1971-2011: a population-based study. Lancet 2014 pii: S0140-6736(14)61396-9.

[3] Cancer Research UK. 2021. Cancer mortality statistics. Accessed September 2021 via https://www.cancerresearchuk.org/health-professional/cancer-statistics/mortality. Data were provided by the Office for National Statistics on request, November 2019. Similar data can be found here: http://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths(link is external). Data were provided by ISD Scotland on request, October 2019. Similar data can be found here: http://www.isdscotland.org/Health-Topics/Cancer/Publications/index.asp(link is external). Data were provided by the Northern Ireland Cancer Registry on request, June 2020. Similar data can be found here: http://www.qub.ac.uk/research-centres/nicr/.

[4] Maddams, J. et al. 2012. Projections of cancer prevalence in the United Kingdom, 2010-2040. British Journal of Cancer. Accessed June 2021 via https://pubmed.ncbi.nlm.nih.gov/22892390/.

[5] Smittenaar CR, Petersen KA, Stewart K, Moitt N. 2016. Cancer Incidence and Mortality Projections in the UK Until 2035. British Journal of Cancer. Accessed September 2021 via 10.1038/bjc.2016.304

[6] Cancer Research UK. 2020. Cancer in the UK 2020: Socio-economic deprivation. Accessed September 2021 via https://www.cancerresearchuk.org/sites/default/files/cancer_inequalities_in_the_uk.pdf.

[7] NHS England. 2019. The NHS Long Term Plan. Accessed July 2021 via https://www.longtermplan.nhs.uk/wp-content/uploads/2019/08/nhs-long-term-plan-version-1.2.pdf.

[8] Projections based on incidence projections to 2028 in England from Smittenaar et al. 2016

[9] Public Health England. 2021. National Disease Registration Service: Staging data in England. Accessed July 2021 via https://www.cancerdata.nhs.uk/stage_at_diagnosis.

[10] NHS England. 2021. Cancer Waiting Times. Accessed August 2021 via https://www.england.nhs.uk/statistics/statistical-work-areas/cancer-waiting-times/.

[11] CRUK analysis of NHS England Cancer Waiting times. From NHS England. 2021. Cancer Waiting Times. Accessed August 2021 via https://www.england.nhs.uk/statistics/statistical-work-areas/cancer-waiting-times/.

[12] International Cancer Benchmarking Partnership. 2021. Cancer Survival in High-Income Countries (SURVMARK-2) project. Accessed April 2021 via https://gco.iarc.fr/survival/survmark/.

[13] Research UK internal modelling based on data from the International Cancer Benchmarking Partnership SURVMARK2 study [Arnold M et al, progress in cancer survival mortality and incidence in seven high income countries 1995-2014 (ICBP Survmark2): a population based study; The Lancet oncology 2019 ISSN: 1470-2045, Vol: 20, Issue: 11, Page: 1493-1505]

[14] Cancer Research UK analysis of Cancer Waiting Time data, published in each UK nation. For more information, see: https://www.cancerresearchuk.org/health-professional/our-research-into-the-impact-of-covid-19-on-cancer.

[15] Charlesworth, A., Johnson, P. Securing the future: funding health and social care to the 2030. Accessed September 2021 via https://ifs.org.uk/uploads/R143%20executive%20summary.pdf.

[16] NHS England and Improvement. 2019. Interim NHS People Plan https://www.longtermplan.nhs.uk/wp-content/uploads/2019/05/Interim-NHS-People-Plan_June2019.pdf

[17] RCR 2020 Census

[18] Royal College of Radiologists. 2021. Clinical radiology UK workforce census 2020 report. Accessed August 2021 via https://www.rcr.ac.uk/system/files/publication/field_publication_files/clinical-radiology-uk-workforce-census-2020-report.pdf

[19] Royal College of Radiologists. 2021. Clinical oncology UK workforce census 2020 report. Accessed August 2021 via https://www.rcr.ac.uk/system/files/publication/field_publication_files/clinical-oncology-uk-workforce-census-2020-report.pdf

[20] BMA. 2021. Medical staffing in England: a defining moment for doctors and patients. Accessed August 2021 via https://www.bma.org.uk/media/4316/bma-medical-staffing-report-in-england-july-2021.pdf

[21] Internal CRUK analysis with estimates are based on the rate of participation and the cancer detection rate for the relevant threshold from the England FIT pilot in 2014 (data based on Moss et al., Gut; 2016), and assume 4.6 million screening programme invites for 60-74 years olds in England per year. Estimates are for the years immediately following the introduction of FIT.

[22] Royal College of Radiologists. 2021. Clinical oncology UK workforce census 2020 report. Accessed August 2021 via https://www.rcr.ac.uk/system/files/publication/field_publication_files/clinical-oncology-uk-workforce-census-2020-report.pdf

[23] Cancer Research UK. 2017. Full team ahead: understanding the UK non-surgical cancer treatments workforce. Accessed September 2021 via https://www.cancerresearchuk.org/sites/default/files/full_team_ahead-full_report.pdf.

[24] CRUK. 2017. Cancer incidence for all cancers combined: Projections of incidence of all cancers combined. Accessed September 2021 via https://www.cancerresearchuk.org/health-professional/cancer-statistics/incidence/all-cancers-combined#heading-Two

[25] Smittenaar et al., Cancer Incidence and Mortality Projections in the UK until 2035. British Journal of Cancer, 2016. DOI: 10.1038/bjc.2016.304

[26] CRUK. 2019. Advancing care, advancing years: improving cancer treatment and care for an ageing population. Accessed August 2021 via https://www.cancerresearchuk.org/sites/default/files/advancing_care_advancing_years_full-report.pdf

[27] https://www.cancerresearchuk.org/sites/default/files/sept2020_cruk_csr_submission_final_1.pdf?_gl=1*80831q*_gcl_aw*R0NMLjE2MTg5MjA5NDAuQ2owS0NRanc5X21EQmhDR0FSSXNBTjNQYUZNckJBXzZXSVhDRU5DTGlhT25OMUJSX2lQNGo0X1NULXNWRkFpeU03enRhdmZVVXZZclJyMGFBcHF4RUFMd193Y0I.*_gcl_dc*R0NMLjE2MTg5MjA5NDAuQ2owS0NRanc5X21EQmhDR0FSSXNBTjNQYUZNckJBXzZXSVhDRU5DTGlhT25OMUJSX2lQNGo0X1NULXNWRkFpeU03enRhdmZVVXZZclJyMGFBcHF4RUFMd193Y0I.*_ga*NDk2MjUwOTE1LjE1NDg3ODE3NzE.*_ga_58736Z2GNN*MTYxODkyOTMwOC40Ni4wLjE2MTg5MjkzMDguNjA.&_ga=2.199774695.853845755.1618782344-496250915.1548781771&_gac=1.28310990.1618920944.Cj0KCQjw9_mDBhCGARIsAN3PaFMrBA_6WIXCENCLiaOnN1BR_iP4j4_ST-sVFAiyM7ztavfUUvYrRr0aApqxEALw_wcB

[28] HEE. 2018. Strategic Framework for Cancer Workforce. Accessed August 2021 via https://www.hee.nhs.uk/sites/default/files/documents/Cancer-Workforce-Document_FINAL%20for%20web.pdf

[29] J. George, E. Gkousis, A. Feast, S. Morris, J. Pollard & J. Vohra. 2020. Estimating the cost of growing the NHS cancer workforce in England by 2029. Accessed August 2021 via https://www.cancerresearchuk.org/sites/default/files/estimating_the_cost_of_growing_the_nhs_cancer_workforce_in_england_by_2029_october_2020_-_full_report.pdf

[30] Health and Social Care Committee. 2021. Oral evidence: Cancer services, HC 551. Accessed September 2021 via https://committees.parliament.uk/oralevidence/2570/pdf/

[31] J. George, E. Gkousis, A. Feast, S. Morris, J. Pollard & J. Vohra. 2020. Estimating the cost of growing the NHS cancer workforce in England by 2029. Accessed August 2021 via https://www.cancerresearchuk.org/sites/default/files/estimating_the_cost_of_growing_the_nhs_cancer_workforce_in_england_by_2029_october_2020_-_full_report.pdf

[32] Nuffield Trust. 2020. The NHS Workforce in Numbers. Accessed August 2021 via https://www.nuffieldtrust.org.uk/public/resource/the-nhs-workforce-in-numbers#8-what-is-the-outlook-for-the-future

[33] R. Sloggett, S. Hughes. 2021. The Economics of Health. Accessed August 2021 via https://www.futurehealth-research.com/site/wp-content/uploads/2021/04/Economics-of-Health-FINAL-April-2021-compressed.pdf

[34] D. Maguire. 2020. The economic influence of the NHS at the local level. The King's Fund. Accessed August 2021 via https://www.kingsfund.org.uk/publications/economic-influence-nhs-local-level

[35] The Strategy Unit. 2017. Economic Impact of NHS Spending in the Black Country. Accessed via https://www.strategyunitwm.nhs.uk/sites/default/files/2019-02/Final%20Report%20NHS%20Economic%20Impact%20of%20NHS%20Spending%20in%20the%20Black%20Country_0.pdf

[36] Royal College of Radiologists. 2021. Clinical radiology UK workforce census 2020 report. Accessed August 2021 via https://www.rcr.ac.uk/system/files/publication/field_publication_files/clinical-radiology-uk-workforce-census-2020-report.pdf

[37] A. Pritchard. 2021. House of Commons Health and Social Care Committee. Oral evidence: Department's White Paper on Health and Social Care, HC 1274. Accessed August 2021 via https://committees.parliament.uk/oralevidence/1830/html/

[38] A. Charlesworth, P. Johnson. 2018. Securing the future: funding health and social care to the 2030s. IFS, The Health Foundation. Accessed via https://ifs.org.uk/uploads/R143%20executive%20summary.pdf

[39] HM Treasury. 2021. Build Back Better: our plan for growth. Accessed via https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/968403/PfG_Final_Web_Accessible_Version.pdf

[40] Wellcome Trust. (2018). Medical Research: What's it worth? Accessed August 2021 via https://wellcome.org/sites/default/files/whats-it-worth-musculoskeletal-disease-research-januar-2018.pdf

[41] Peckham, S., Eida, T., Zhang, W., Hashem, F., Spencer, S., Kendall, S., Newberry Le Vay, J., Buckley-Mellor, O., Samuel, E. Vohra, J. 2021. Creating Time for Research: Identifying and

improving the capacity of healthcare staff to conduct research. Accessed August 2021 via https://www.cancerresearchuk.org/sites/default/files/creating_time_for_research_february_2021_-_full_report-v2.pdf

[42] NHS Providers. 2020. Rebuilding Our NHS: Why It's Time to Invest. Accessed September 2021 via https://nhsproviders.org/rebuilding-our-nhs

[43] NHS Providers. 2020. Rebuilding Our NHS: Why It's Time to Invest. Accessed September 2021 via https://nhsproviders.org/rebuilding-our-nhs; Richards, M. October 2019. Report of the Independent Review of Adult Screening Programmes in England. Accessed September 2021 via https://www.england.nhs.uk/wp-content/uploads/2019/02/report-of-the-independent-review-of-adult-screening-programme-in-england.pdf

[44] Dalton, J. December 2018. 'NHS 'doesn't have enough scanners' to roll out new hi-tech method of detecting prostate cancer'. The Independent. Accessed June 2021 via https://www.independent.co.uk/news/uk/home-news/prostate-cancer-nhs-scan-mri-treatment-biopsy-diagnosis-a8678501.html

[45] OECD. 2019. Health at a Glance 2019: OECD Indicators (Summary).OECD Publishing, Paris. Accessed September 2021 via https://www.oecd-ilibrary.org/docserver/4dd50c09-en.pdf?expires=1628245352&id=id&accname=guest&checksum=A7AFC90F1C8171794202764A28D00FBC

[46] Lynch, C. et al. 2021. A comparative analysis: international variation in PET-CT service provision in oncology—an International Cancer Benchmarking Partnership study. International Journal for Quality in Health Care, 33:1. Accessed June 2021 via https://doi.org/10.1093/intqhc/mzaa166

[47] Ede, R. and Phillips, S. 2021. A Wait on your Mind? A realistic proposal for tackling the elective backlog, Policy Exchange. Accessed September 2021 via https://policyexchange.org.uk/publication/a-wait-on-your-mind/

[48] Cancer Research UK. 2021. Internal analysis of Monthly Diagnostic Waiting Times and Activity, NHS England. Accessed September 2021 via https://www.england.nhs.uk/statistics/statistical-work-areas/diagnostics-waiting-times-and-activity/monthly-diagnostics-waiting-times-and-activity/"

[49] Moore, A. 2020. Endoscopy shortfall is here to stay, NHS warned. Health Services Journal. Accessed June 2021 via https://www.hsj.co.uk/coronavirus/endoscopy-shortfall-is-here-to-stay-nhs-warned/7027831.article

[50] Cancer Research UK. 2021. Internal analysis of NHSE Diagnostic Waiting Time and Activity - analysis available upon request.

[51] Richards, M. 2020. Diagnostics: Recovery and Renewal. Report of the Independent Review of Diagnostic Services for NHS England. Accessed September 2021 via https://www.england.nhs.uk/wp-content/uploads/2020/11/diagnostics-recovery-and-renewal-independent-review-of-diagnostic-services-for-nhs-england-2.pdf

[52] NHS England. 2017. Achieving World-Class Cancer Outcomes: A Strategy for England 2015-2020 – Progress Report 2016-17. Accessed September 2021 via https://www.england.nhs.uk/publication/achieving-world-class-cancer-outcomes/

[53] NHS England. April 2021. Diagnostic imaging network implementation guide. Accessed September 2021 via https://www.england.nhs.uk/publication/diagnostic-imaging-network-implementation-guide/

[54] NHS England. 2017. Achieving World-Class Cancer Outcomes: A Strategy for England 2015-2020 – Progress Report 2016-17. Accessed September 2021 via https://www.england.nhs.uk/publication/achieving-world-class-cancer-outcomes/

[55] Royal College of Pathologists. Digital Pathology. Accessed September 2021 via https://www.rcpath.org/profession/digital-pathology.html

[56] Richards, M. 2019. Report of the Independent Review of Adult Screening Programmes in England. Accessed September 2021 via https://www.england.nhs.uk/wp-content/uploads/2019/02/report-of-the-independent-review-of-adult-screening-programme-in-england.pdf

[57] APPG for Radiotherapy. 2020. Transforming Radiotherapy: A six-point Covid-19 recovery plan to save lives and save money within the NHS. Accessed September 2021 via https://e8604b0e-5c16-4637-907f-3091e4443249.filesusr.com/ugd/4fcdc3_50d7f2b1bc5f4750a2f20fc81c70cdf7.pdf

[58] Prostate Matters. Where to access MR Linac treatment. Accessed September 2021 via https://prostatematters.co.uk/prostate-cancer/where-to-access-mrlinac/

[59] HM Treasury. 2020. Spending Review 2020. Accessed September 2021 via https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/938052/SR20_Web_Accessible.pdf

60 Cancer Research UK, Commercial Partnerships Review 2020/21. Last accessed on 28th September 2021 via http://commercial.cancerresearchuk.org/sites/default/files/Commercial%20Partnerships%20Annual%20Review%202020-2021.pdf

61 ADC announces FDA Approval of Zynlonta in Relapsed or Refractory Diffuse Large B-Cell Lymphoma. last accessed on 28th September 2021 via http://commercial.cancerresearchuk.org/adc-therapeutics-announces-fda-approval-zynlonta%E2%84%A2-loncastuximab-tesirine-lpyl-relapsed-or-refractory

[62] HM Treasury. 2021 Build Back Better: Our Plan for Growth. Accessed on 7th September 2021 via https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/968403/PfG_Final_Web_Accessible_Version.pdf

[63] UK Government. 2021. Prime Minister Sets Out Plans to realise and maximise the opportunities of scientific and technological breakthroughs. Accessed on 3rd September 2021 via https://www.gov.uk/government/news/prime-minister-sets-out-plans-to-realise-and-maximise-the-opportunities-of-scientific-and-technological-breakthroughs

[64] Association of the British Pharmaceutical Industry. 2020. Clinical trials: How the UK can transform the clinical research environment. Accessed 22 July 2021 via https://www.abpi.org.uk/media/8307/11275_abpi_clinical-trials-report-2020_aw-v1-high.pdf., p. 5.
[65] Conservative and Unionist Party. 2019. Manifesto 2019. Accessed 1 September 2021 via https://assets-global.website-files.com/5da42e2cae7ebd3f8bde353c/5dda924905da587992a064ba_Conservative%202019%20Manifesto.pdf., p. 11.
[66] Smittenaar, C.R. et al. 2016. Cancer incidence and mortality projections in the UK until 2035. British Journal of Cancer, 115. Accessed 1 September 2021 via https://doi.org/10.1038/bjc.2016.304., pp. 1147-1155.
[67] Cancer Research UK.2020. Early Detection and Diagnosis of Cancer: A Roadmap to the future. Accessed 7th September 2021 via https://www.cancerresearchuk.org/sites/default/files/early_detection_diagnosis_of_cancer_roadmap.pdf
[68] National Institute for Health Research. 2021. NIHR survey reveals public's attitudes to health research following coronavirus. Accessed 10 August 2021 via https://www.nihr.ac.uk/news/nihr-survey-reveals-publics-attitudes-to-health-research-following-coronavirus/27728.
[69] Health and Care Research Wales. 2021. More than 90% of people in Wales think health research has been important during COVID-19 pandemic. Accessed 10 August 2021 via https://healthandcareresearchwales.org/more-90-people-wales-think-health-research-has-been-important-during-covid-19-pandemic.
[70] National Institute for Health Research. 2021. NIHR survey reveals public's attitudes to health research following coronavirus. Accessed 10 August 2021 via https://www.nihr.ac.uk/news/nihr-survey-reveals-publics-attitudes-to-health-research-following-coronavirus/27728.
[71] Health and Care Research Wales. 2021. More than 90% of people in Wales think health research has been important during COVID-19 pandemic. Accessed 10 August 2021 via https://healthandcareresearchwales.org/more-90-people-wales-think-health-research-has-been-important-during-covid-19-pandemic.
[72] Jonker, L. and Fisher, S.J. 2018. The correlation between National Health Service trusts' clinical trial activity and both mortality rates and care quality commission ratings: a retrospective cross-sectional study. Public Health, 157. Accessed 1 September 2021 via https://doi.org/10.1016/j.puhe.2017.12.022., pp. 1-6.
[73] Peckham, S. et al. 2021. Creating Time for Research: Identifying and improving the capacity of healthcare staff to conduct research. Accessed 18 August 2021 via https://www.cancerresearchuk.org/sites/default/files/creating_time_for_research_february_2021_-_full_report-v2.pdf., p. 30.
[74] Peckham, S. et al. 2021. Creating Time for Research: Identifying and improving the capacity of healthcare staff to conduct research. Accessed 18 August 2021 via https://www.cancerresearchuk.org/sites/default/files/creating_time_for_research_february_2021_-_full_report-v2.pdf., p. 27.
[75] Peckham, S. et al. 2021. Creating Time for Research: Identifying and improving the capacity of healthcare staff to conduct research. Accessed 18 August 2021 via https://www.cancerresearchuk.org/sites/default/files/creating_time_for_research_february_2021_-_full_report-v2.pdf., p. 33.
[76] Peckham, S. et al. 2021. Creating Time for Research: Identifying and improving the capacity of healthcare staff to conduct research. Accessed 18 August 2021 via https://www.cancerresearchuk.org/sites/default/files/creating_time_for_research_february_2021_-_full_report-v2.pdf., p. 10.
[77] Peckham, S. et al. 2021. Creating Time for Research: Identifying and improving the capacity of healthcare staff to conduct research. Accessed 18 August 2021 via https://www.cancerresearchuk.org/sites/default/files/creating_time_for_research_february_2021_-_full_report-v2.pdf., p. 10.
[78] National Cancer Patient Experience Survey. 2020. 2019 Alliance level results. Accessed 31 August 2021 via https://www.ncpes.co.uk/2019-alliance-level-results/.
[79] Jonker, L. and Fisher, S.J. 2018. The correlation between National Health Service trusts' clinical trial activity and both mortality rates and care quality commission ratings: a retrospective cross-sectional study. Public Health, 157. Accessed 1 September 2021 via https://doi.org/10.1016/j.puhe.2017.12.022., pp. 1-6.
[80] Conservative and Unionist Party. 2019. Manifesto 2019. Accessed 1 September 2021 via https://assets-global.website-files.com/5da42e2cae7ebd3f8bde353c/5dda924905da587992a064ba_Conservative%202019%20Manifesto.pdf., p. 11.
[81] National Institute for Health Research. 2021. Annual Statistics. Accessed 22 July 2021 via https://www.nihr.ac.uk/about-us/what-we-do/our-research-performance/annual-statistics.htm.
[82] Lichten, A. et al. 2017. Does a biomedical research centre affect patient care in local hospitals? Health Research Policy and Systems, 15(2). Accessed 1 September 2021 via https://doi.org/10.1186/s12961-016-0163-7.
[83] Association of the British Pharmaceutical Industry. 2020. Clinical trials: How the UK can transform the clinical research environment. Accessed 22 July 2021 via https://www.abpi.org.uk/media/8307/11275_abpi_clinical-trials-report-2020_aw-v1-high.pdf., p. 13.
[84] Office for Life Sciences. 2020. Bioscience and Health technology Sector Statistics 2019. Accessed 31 August 2021 via https://www.gov.uk/government/statistics/bioscience-and-health-technology-sector-statistics-2019.

[85] KPMG. 2019. Impact and value of the NIHR Clinical Research Network. Accessed 22 July 2021 via https://www.nihr.ac.uk/news/new-report-highlights-how-nihr-support-for-clinical-research-benefits-the-uk-economy-and-nhs/22489., p. 7.
[86] Cancer Research UK. (2020). Delivering on the Conservative Party Manifesto cancer commitments - Cancer Research UK representation to the Comprehensive Spending Review 2020. Accessed 22 July 2021 via https://www.cancerresearchuk.org/sites/default/files/sept2020_cruk_csr_submission_final_1.pdf., p. 11.
[87] Peckham, S. et al. 2021. Creating Time for Research: Identifying and improving the capacity of healthcare staff to conduct research. Accessed 18 August 2021 via https://www.cancerresearchuk.org/sites/default/files/creating_time_for_research_february_2021_-_full_report-v2.pdf., p. 8.
[88] Peckham, S. et al. 2021. Creating Time for Research: Identifying and improving the capacity of healthcare staff to conduct research. Accessed 18 August 2021 via https://www.cancerresearchuk.org/sites/default/files/creating_time_for_research_february_2021_-_full_report-v2.pdf., p. 10.
[89] Peckham, S. et al. 2021. Creating Time for Research: Identifying and improving the capacity of healthcare staff to conduct research. Accessed 18 August 2021 via https://www.cancerresearchuk.org/sites/default/files/creating_time_for_research_february_2021_-_full_report-v2.pdf., p. 9.
[90] Association of Medical Research Charities. 2021. Our sector's footprint. Accessed 1 September 2021 via https://www.amrc.org.uk/our-sectors-footprint-in-2020.
[91] University of Birmingham. 2021. National Lung Matrix Trial. Accessed 1 September 2021 via https://www.birmingham.ac.uk/research/crctu/trials/lung-matrix/index.aspx.
[92] Campaign for Science and Engineering. 2014. The Economic Significance of the UK Science Base. Accessed 26 August 2021 via https://www.sciencecampaign.org.uk/resource/UKScienceBase.html.
[93] Unlocking the investment power of medical research charities: how the charity research support fund enables the unique contributions of charities to health and wellbeing (2017) https://www.amrc.org.uk/Handlers/Download.ashx?IDMF=8f62a1b7-6635-42bc-b851-dbaec6c4b646
[94] Russell Group. 2021. Underpinning our world-class research base – the importance of QR funding. Accessed 20 September 2021 via https://www.russellgroup.ac.uk/policy/policy-documents/underpinning-our-world-class-research-base-the-importance-of-qr/., p. 1.
[95] Association of Medical Research Charities The Charity Research Support Fund: https://www.amrc.org.uk/charity-research-support-fund-crsf
[96] Cancer Research UK. 2014. Exploring the Interdependencies of Research Funders in the UK. Accessed 1 September 2021 via https://www.cancerresearchuk.org/sites/default/files/interdependencies_of_funders_in_the_uk_march2014.pdf., p. 16.
[97] Association of the British Pharmaceutical Industry. 2020. Clinical trials: How the UK can transform the clinical research environment. Accessed 22 July 2021 via https://www.abpi.org.uk/media/8307/11275_abpi_clinical-trials-report-2020_aw-v1-high.pdf., p. 13.
98 https://cancergrandchallenges.org/teams
[99] Public Health England. 2020. Disparities in the risk and outcomes of COVID-19. Accessed 2 September 2021 via https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/908434/Disparities_in_the_risk_and_outcomes_of_COVID_August_2020_update.pdf
[100] Bhaskaran K, Bacon S, Evans SJ, et al. 2021. Factors associated with deaths due to COVID-19 versus other causes: population-based cohort analysis of UK primary care data and linked national death registrations within the OpenSAFELY platform. The Lancet Regional Health Europe. 2021. Accessed 2 September 2021 via https://pubmed.ncbi.nlm.nih.gov/33997835/.
[101] Department of Health and Social Care and The Rt Hon Sajid Javid MP. 2021. New body to tackle health disparities will launch 1 October, co-headed by new Deputy Chief Medical Officer. Accessed 21 September 2021 via https://www.gov.uk/government/news/new-body-to-tackle-health-disparities-will-launch-1-october-co-headed-by-new-dcmo--2
[102] Calculated by the Cancer Intelligence Team at Cancer Research UK, April 2020. Based on method reported in National Cancer Intelligence Network Cancer by Deprivation in England Incidence, 1996-2010 Mortality, 1997-2011 (link is external). Using cancer incidence data 2013-2017 (Public Health England) and population data 2013-2017 (Office for National Statistics) by Indices of Multiple Deprivation 2015 income domain quintile, cancer type, sex, and five-year age band.

> *It is estimated that there are 27,200 extra cancer cases each year in England attributable to deprivation in those cancer sites where incidence rates are higher in more deprived areas (the corresponding figure for the UK is more than 30,000). These figures exclude cancer types where incidence rates are lower in more deprived areas, e.g. breast, prostate, and melanoma skin cancers.*

[103] Department of Health & Social Care. 2017. Towards a smoke-free generation: a tobacco control plan for England. Accessed 2 September 2021 via https://www.gov.uk/government/publications/towards-a-smoke-free-generation-tobacco-control-plan-for-england.

[104] Cabinet Office and Department of Health & Social Care. 2019. Advancing our health: prevention in the 2020s – consultation document. Accessed 2 September 2021 via https://www.gov.uk/government/consultations/advancing-our-health-prevention-in-the-2020s/advancing-our-health-prevention-in-the-2020s-consultation-document

[105] Action on Smoking and Health and Cancer Research UK. 2019. A changing landscape: stop smoking services and tobacco control in England. Accessed 2 September 2021 via https://ash.org.uk/wp-content/uploads/2019/03/2019-LA-Survey-Report.pdf.

[106] IPPR. 2019. Hitting the poorest worse? How public health cuts have been experienced in England's most deprived communities. Accessed 2 September 2021 via https://www.ippr.org/blog/public-health-cuts

[107] Office of National Statistics. 2020. Adult smoking habits in the UK: 2019. Accessed 2 September 2021 via https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandlifeexpectancies/bulletins/adultsmokinghabitsingreatbritain/2019.

[108] Welsh Government. 2020. National Survey for Wales, 2019/20. Accessed January 2021 via https://gov.wales/national-survey-wales

[109] Scottish Government. 2020. The Scottish Health Survey, 2019. Accessed January 2021 via from: https://www.gov.scot/collections/scottish-health-survey/ .

[110] Northern Ireland Department of Health. 2020. Health Survey Northern Ireland, 2019/20. Accessed January 2021 via https://www.health-ni.gov.uk/topics/doh-statistics-and-research/health-survey-northern-ireland.

[111] Brown KF, Rumgay H, Dunlop C, et al. 2018. The fraction of cancer attributable to modifiable risk factors in England, Wales, Scotland, Northern Ireland, and the United Kingdom in 2015. British Journal of Cancer. Accessed 2 September 2021 via https://www.nature.com/articles/s41416-018-0029-6.

[112] Global Health Data Exchange. Global Burden of Disease (GBD) Results Tool. Accessed October 2020 via http://ghdx.healthdata.org/gbd-results-tool.

[113] Action on Smoking and Health and University College London. 2020. Press release: A million people have stopped smoking since the COVID pandemic hit Britain. Accessed 2 September 2021 via https://ash.org.uk/media-and-news/press-releases-media-and-news/pandemicmillion/.

[114] Smoking Toolkit Study. 2021. Smoking in England - top line findings - July 2021. Accessed 7 September 2021 via https://smokinginengland.info/resources/latest-statistics.

[115] Cancer Research UK. 2021. Smoking among young adults increased by 25% during first lockdown. Accessed 2 September 2021 via https://news.cancerresearchuk.org/2021/08/25/smoking-among-young-adults-increased-by-25-during-first-lockdown/.

[116] Action on Smoking and Health (ASH). 2019. The Local Costs of Tobacco: ASH "Ready Reckoner": 2019 Edition. Accessed 1 September 2021 via https://ash.org.uk/ash-ready-reckoner/.

[117] Howard Reed, Landman Economics. 2021. Estimates of poverty in the UK adjusted for expenditure on tobacco – 2021 update. Accessed 22 September 2021 via https://ash.org.uk/wp-content/uploads/2021/07/Smoking-and-poverty-July-2021.pdf.

[118] Action on Smoking and Health (ASH). 2019. The Local Costs of Tobacco: ASH "Ready Reckoner": 2019 Edition. Accessed 1 September 2021 via https://ash.org.uk/ash-ready-reckoner/.

[119] Office of National Statistics. 2020. Adult smoking habits in the UK: 2019. Accessed 2 September 2021 via https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandlifeexpectancies/bulletins/adultsmokinghabitsingreatbritain/2019.

[120] Cancer Intelligence team, Cancer Research UK. 2020. Cancer in the UK 2020: Socio-economic deprivation. Accessed 7 September 2021 via https://www.cancerresearchuk.org/sites/default/files/cancer_inequalities_in_the_uk.pdf

[121] Action on Smoking and Health (ASH). 2016. ASH Briefing: Health inequalities and smoking. Accessed 2 September 2021 via https://ash.org.uk/information-and-resources/briefings/ash-briefing-health-inequalities-and-smoking/.

[122] Marmot M, Allen J, Goldblatt P, et al. 2010. Fair Society, Healthy Lives: The Marmot Review: strategic review of health inequalities in England post-2010. Accessed 1 September 2021 via https://www.instituteofhealthequity.org/resources-reports/fair-society-healthy-lives-the-marmot-review/fair-society-healthy-lives-full-report-pdf.pdf

[123] Payne et al. Socio-economic deprivation and cancer in England: Quantifying the role of smoking (paper in preparation).

Number and proportion of cancer cases attributable to smoking calculated by combining smoking prevalence in 2003-07, cancer incidence in 2013-17, and relative risk of being diagnosed with cancer in current and ex-smokers versus never-smokers. All calculations split by deprivation quintile (assessed by the income domain of the Index of Multiple Deprivation), sex, and cancer site.

[124] Cancer Research UK. 2021. Making Conversations Count for All: Benefits of improving delivery of smoking cessation interventions for different socioeconomic groups. Accessed 2 September 2021 via https://www.cancerresearchuk.org/sites/default/files/making_conversations_count_part_for_all_august_2021_-_full_report_0.pdf.

[125] Department of Health and Social Care. 2021. Chief Medical Officer's Annual Report 2021. Health in Coastal Communities. Accessed 21 September 2021 via https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1005216/cmo-annual_report-2021-health-in-coastal-communities-accessible.pdf

[126] Cancer Intelligence Team, Cancer Research UK. 2020. Smoking prevalence projections for England, Scotland, Wales and Northern Ireland, based on data to 2018/2019. Accessed 2 September 2021 via https://www.cancerresearchuk.org/sites/default/files/cancer_research_uk_smoking_prevalence_projections_february_2020_final.pdf.

[127] UK Parliament. 2020. Question for Department of Health and Social Care (UIN 122663, tabled 30 November 2020). Accessed 2 September 2021 via https://questions-statements.parliament.uk/written-questions/detail/2020-11-30/122663.

[128] House of Commons. 2012. Reply to parliamentary question tabled by Chris Ruane Col. Accessed 1 September 2021 via https://www.theyworkforyou.com/wrans/?id=2012-04-24b.105297.h&s=public+health+speaker%3A10518#g105297.q0.

[129] UK Parliament. 2019. Question for Department of Health and Social Care (UIN 214029, tabled on 29 January 2019). Accessed 1 September 2021 via https://questions-statements.parliament.uk/written-questions/detail/2019-01-29/214029.

[130] Action on Smoking and Health and Cancer Research UK. 2021. Stepping up: The response of stop smoking services in England to the COVID-19 pandemic. Accessed 2 September 2021 via https://ash.org.uk/wp-content/uploads/2021/01/ASH-CRUK-Stepping-Up-FINAL.pdf.

[131] Action on Smoking and Health and Cancer Research UK. 2019. A changing landscape: stop smoking services and tobacco control in England. Accessed 2 September 2021 via https://ash.org.uk/wp-content/uploads/2019/03/2019-LA-Survey-Report.pdf.

[132]Action on Smoking and Health and Cancer Research UK. 2021. Stepping up: The response of stop smoking services in England to the COVID-19 pandemic. Accessed 2 September 2021 via https://ash.org.uk/wp-content/uploads/2021/01/ASH-CRUK-Stepping-Up-FINAL.pdf.

[133] Cabinet Office and Department of Health & Social Care. 2019. Advancing our health: prevention in the 2020s – consultation document. Accessed 2 September 2021 via https://www.gov.uk/government/consultations/advancing-our-health-prevention-in-the-2020s/advancing-our-health-prevention-in-the-2020s-consultation-document

[134] World Health Organisation. 2021. Tobacco. Accessed 2 September 2021 via https://www.who.int/news-room/fact-sheets/detail/tobacco.

[135] APPG on Smoking and Health.2019. Delivering the vision of a smokefree generation. Accessed 2 September 2021 via http://ash.org.uk/wp-content/uploads/2019/02/2019-APPG-report.pdf

[136] ASH and Breathe2025. 2019. Response to Advancing our health: prevention in the 2020s. Accessed 2 September 2021 via https://ash.org.uk/wp-content/uploads/2019/10/ASH_Breathe2025PGPconsubmissionFINAL.pdf.

[137] Cancer Research UK. 2021. Funding the Smokefree Generation. Accessed 2 September 2021 via https://www.cancerresearchuk.org/sites/default/files/funding_the_smokefree_generation_-_full_report.pdf.

[138] Kotz D, Brown J, West R. 2014. 'Real-world' effectiveness of smoking cessation treatments: a population study. Addiction. Accessed 2 September 2021 via https://pubmed.ncbi.nlm.nih.gov/24372901/

[139] Kotz D, Brown J, West R. 2014. Prospective cohort study of the effectiveness of smoking cessation treatments used in the "Real World". Mayo Clinic Proceedings. Accessed 2 September 2021 via https://www.mayoclinicproceedings.org/article/S0025-6196(14)00629-6/fulltext.

[140] Action on Smoking and Health and Cancer Research UK. 2021. Stepping up: The response of stop smoking services in England to the COVID-19 pandemic. Accessed 2 September 2021 via https://ash.org.uk/wp-content/uploads/2021/01/ASH-CRUK-Stepping-Up-FINAL.pdf.

[141] Action on Smoking and Health (ASH). 2019. The Local Costs of Tobacco: ASH "Ready Reckoner": 2019 Edition. Accessed 1 September 2021 via https://ash.org.uk/ash-ready-reckoner/.

[142] Langley TE, McNeill A, Lewis S, Szatkowski L, Quinn C. 2012. The impact of media campaigns on smoking cessation activity: a structural vector autoregression analysis. Addiction. Accessed 2 September 2021 via https://pubmed.ncbi.nlm.nih.gov/22632403/

[143] Sims M, Salway R, Langley R, et al. 2014. Effectiveness of tobacco control television advertising in changing tobacco use in England: a population-based cross-sectional study. Addiction. Accessed 2 September 2021 via https://onlinelibrary.wiley.com/doi/full/10.1111/add.12501

[144] Kuipers MAG, West R, Beard EV, Brown J. 2020. Impact of the "Stoptober" Smoking Cessation Campaign in England From 2012 to 2017: A Quasiexperimental Repeat Cross-Sectional Study. Nicotine & Tobacco Research. Accessed 2 September 2021 via https://academic.oup.com/ntr/article/22/9/1453/5524245

[145] Atusingwize E, Lewis S, Langley T. 2015. Economic evaluations of tobacco control mass media campaigns: a systematic review. Tobacco Control Accessed 2 September 2021 via https://tobaccocontrol.bmj.com/content/24/4/320.

[146] Durkin S, Wakefield M. 2014. Commentary on Sims et al. (2014) and Langley et al. (2014) Mass media campaigns require adequate and sustained funding to change population health behaviours. Addiction Accessed 2 September 2021 via https://onlinelibrary.wiley.com/doi/full/10.1111/add.12564.

[147] House of Commons. 2012. Reply to parliamentary question tabled by Chris Ruane Col. Accessed 1 September 2021 via https://www.theyworkforyou.com/wrans/?id=2012-04-24b.105297.h&s=public+health+speaker%3A10518#g105297.q0.

[148] UK Parliament. 2019. Question for Department of Health and Social Care (UIN 214029, tabled on 29 January 2019). Accessed 1 September 2021 via https://questions-statements.parliament.uk/written-questions/detail/2019-01-29/214029.

[149] NHS England. 2019. NHS Long Term Plan. Chapter 2: More NHS action on prevention an health inequalities: Smoking. Accessed 2 September 2021 via https://www.longtermplan.nhs.uk/online-version/chapter-2-more-nhs-action-on-prevention-and-health-inequalities/smoking/

[150] IPPR. 2019. Hitting the poorest worse? How public health cuts have been experienced in England's most deprived communities. Accessed 2 September 2021 via https://www.ippr.org/blog/public-health-cuts

[151] The Health Foundation. 2021. Public health grant allocations represent a 24% (£1bn) real terms cut compared to 2015/16. Accessed 2 September 2021 via https://www.health.org.uk/news-and-comment/news/public-health-grant-allocations-represent-a-24-percent-1bn-cut.

[152] Kotz D, Brown J, West R. 2014. 'Real-world' effectiveness of smoking cessation treatments: a population study. Addiction. Accessed 2 September 2021 via https://pubmed.ncbi.nlm.nih.gov/24372901/

[153] Kotz D, Brown J, West R. 2014. Prospective cohort study of the effectiveness of smoking cessation treatments used in the "Real World". Mayo Clinic Proceedings. Accessed 2 September 2021 via https://www.mayoclinicproceedings.org/article/S0025-6196(14)00629-6/fulltext.

[154] Action on Smoking and Health and Cancer Research UK. 2021. Stepping up: The response of stop smoking services in England to the COVID-19 pandemic. Accessed 2 September 2021 via https://ash.org.uk/wp-content/uploads/2021/01/ASH-CRUK-Stepping-Up-FINAL.pdf.

[155] Loveman E, Frampton GK, Shepherd J, et al. 2011. The clinical effectiveness and cost-effectiveness of long-term weight management schemes for adults: a systematic review. Health Technol Assess. Accessed 2 September 2021 via https://pubmed.ncbi.nlm.nih.gov/21247515/.

[156] Ma C, Avenell A, Bolland M, et al. 2017. Effects of weight loss interventions for adults who are obese on mortality, cardiovascular disease, and cancer: systematic review and meta-analysis. BMJ. Accessed 2 September 2021 via https://www.bmj.com/content/359/bmj.j4849.

[157] Cancer Research UK. 2021. Smoking among young adults increased by 25% during first lockdown. Accessed 2 September 2021 via https://news.cancerresearchuk.org/2021/08/25/smoking-among-young-adults-increased-by-25-during-first-lockdown/.

[158] NCD Alliance. 2021. Why NCDs. Accessed September 2021 via https://ncdalliance.org/why-ncds/NCDs

[159] NCD Alliance. 2021. Cancer. Accessed September 2021 via https://ncdalliance.org/why-ncds/ncd-management/cancer

[160] World Health Organisation. 2021. Tobacco Factsheet. Accessed September 2021 via https://www.who.int/news-room/fact-sheets/detail/tobacco

[161] Cervical Cancer Action for Elimination. 2021. Cervical Cancer: A Preventable Disease. Accessed September 2021 via https://cervicalcanceraction.org/cervical-cancer/

[162] G7. 2021. Health Ministers Declaration. Accessed September 2021 via: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/992268/G7-health_ministers-communique-oxford-4-june-2021_5.pdf