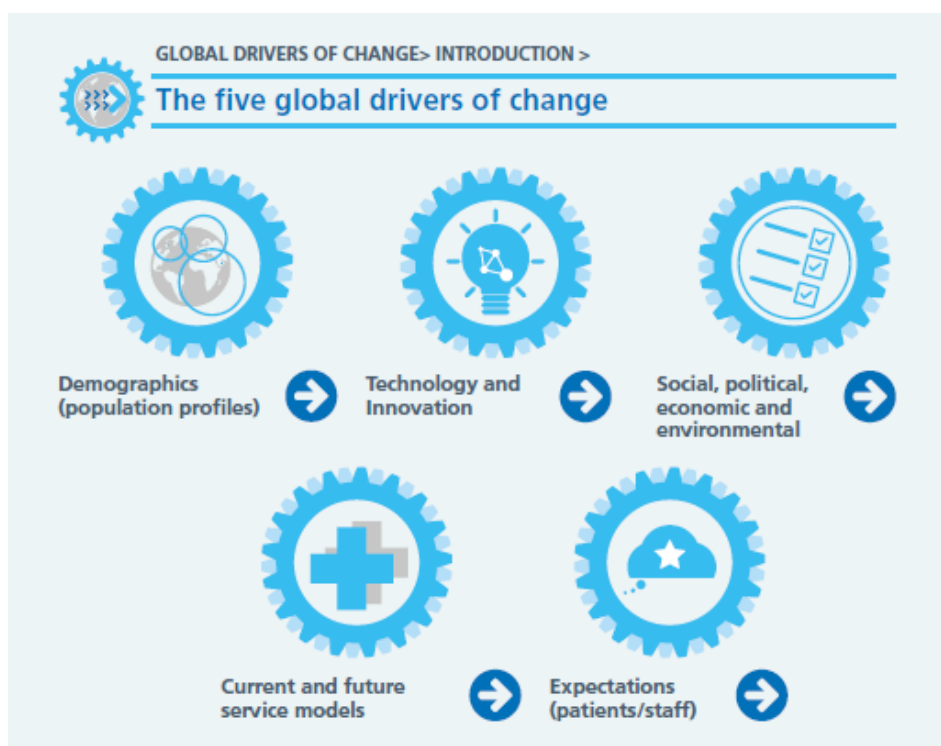


Call for evidence

What are the workforce challenges for cancer services beyond 2021, and what should we do to address them?

The [Cancer Workforce Plan Phase 1: Delivering the cancer strategy to 2021](#) necessarily focusses on immediate steps to secure and increase supply in some key areas to ensure delivery of the Five Year Forward View objectives by 2021. Our ability to understand and respond to cancer is continually changing, therefore we are developing a longer-term strategy that looks at the workforce needs beyond 2021. The longer-term strategy will take the forecast needs of the future population/people affected by cancer as its starting point, build upon HEE's *Framework 15* and be published in the summer of 2018.

In our Strategic Framework, [Framework 15](#) (published in 2014) we identified five key drivers of change:



The call for evidence

As part of Phase 2 of the Cancer Workforce Plan, we are making **this call for evidence** from all interested parties on the five drivers of change and how they are likely to impact on the forecast demand for health care for people affected by cancer over the next ten to fifteen years, to enable us to consider the likely workforce implications against a consistent set of planning assumptions.

What counts as evidence?

To help provide the information we need to help us plan for the future we are inviting the following types of evidence:

- Research (quantitative and qualitative) about the impact of change on cancer services into the future and where possible how this will impact the healthcare workforce
- National and local surveys or collated group feedback
- Examples/case studies from the UK and from the international healthcare community are welcome

Please do not include any of the following:

- Promotional material
- Patient identifiable information or information which does not have the explicit consent of the individual(s) involved (example case studies of patient experience in published material already in the public domain can be submitted)
- Newspaper articles, other than where the source information is not available in its original form elsewhere

Where the information is confidential/commercially sensitive or not in the public domain please highlight this on the feedback form.

Submission

Written evidence should be submitted to cancerstrategy@hee.nhs.uk including in the subject line of the email 'Cancer Strategy call for evidence documents' and [Your Name or Organisation], attaching the source documents if possible. Please submit by **Friday 26th January 2018**, although we will endeavour to review any submissions after that date (*if for any reason there is likely to be a delay in your submission, please let us know so we can try to take account of this*)

Data Protection and Freedom of Information

The information you send us may be made available to wider partners, referred to in future published workforce returns or other reports and may be stored on our internal evidence database.

Any information contained in your response may be subject to publication or disclosure if requested under the Freedom of Information Act 2000. By providing personal information for this review it is understood that you consent to its disclosure and publication. If this is not the case, you should limit any personal information provided or remove it completely. If you want the information in your response to be kept within HEE's executive processes, you should make this clear in your submission, although we cannot guarantee to be able to do this.

FORM FOR SUBMISSION OF EVIDENCE

This template is provided to help you to structure your information and evidence and to help us to get the most from your contribution when we review it. Use of this template is optional and we welcome all feedback.

For each of the five questions below, please highlight what form the evidence takes, for example is it published research, surveys etc. (please describe each element of evidence provided, citing page numbers/relevant sections where possible).

Please do not submit any information which could identify an individual patient or patients.

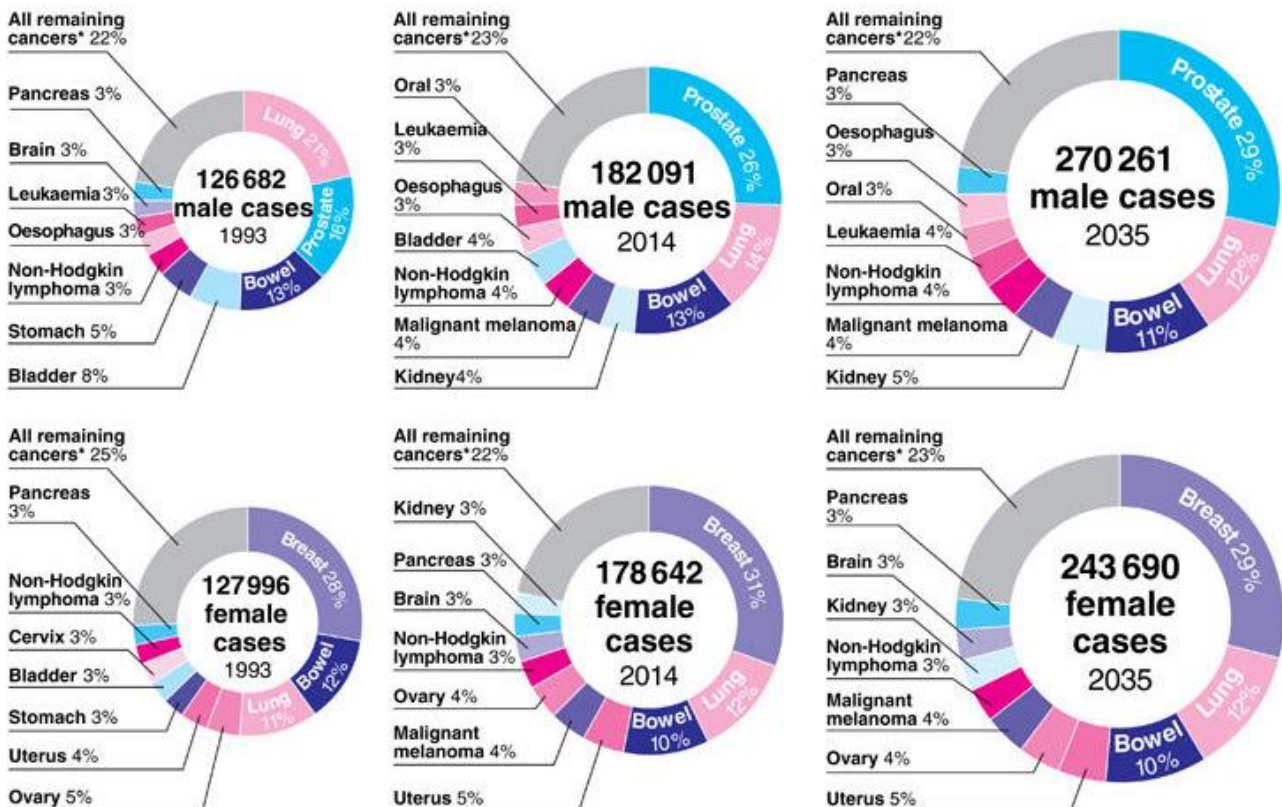
1) What are the main DRIVERS OF CHANGE for CANCER services over the next ten to fifteen years?

Please use the five main categories identified in Framework 15 – but feel free to add sub-categories as appropriate to your evidence.

1a. Demographics (population profiles) and Epidemiology: Incidence

Cancer incidence rates have increased by 12% since the early 1990s. In 2015, there were 359,960 new cases of cancer in the UK. Due to a growing and ageing population, the number of cancer cases in the UK is projected to rise to around 514,000 new cases per year in 2035, with a greater increase in men than women³. This results in a demand increase of 2% per year, all other factors being equal. These projections can be broken down into different cancer types (figure 1):

FIGURE 1: PROJECTIONS FOR CANCER INCIDENCE BY CANCER TYPE



Alongside the ageing and growing population, preventable risk factors are also causing the increasing cancer incidence. 4 in 10 cancers could be prevented – with smoking being the greatest risk factor, and rising obesity levels also causing concerns. Smoking causes around 60,000 cases of cancer every year in the UK, and is a risk factor for at least 14 cancer types. Being overweight or obese causes around 20,000 cases of cancer every year, and is a risk factor for 13 different cancer types. Rising obesity levels could cause an extra 670,000 cancers by 2035.

Survival and prevalence

In the 1970s, only 1 in 4 people diagnosed with cancer survived their disease more than for 10 years. Currently, 1 in 2 people diagnosed with cancer in England and Wales survive their disease for 10 years or more⁴. Survival rates are improving approx. 0.8% per year which means there will be an increase in survivors and prevalence of cases. Survival varies considerably between cancer types: 98% of people with testicular cancer survive their disease for 10 years or more, whereas just 1% of people with pancreatic cancer do⁵. This will change in the next 10/15 years, which means that the case mix of patients treated will change. This is key to understanding future workforce need. For example, we are seeing a reduction of men diagnosed with lung cancer. This will have implications for the workforce.

Increasing complexity and co-morbidities

However, with increasing complexity and a rise in co-morbidities, we need to ensure that we are meeting the growing and changing needs of people affected by cancer, including those with rare and less common cancers. And we will not be able to improve cancer outcomes in England without the right workforce equipped with the right skills and values.

1b. Technology & Innovation:

Technology and innovation will have a significant impact on cancer services over the next 10 to 15 years. This is across the patient pathway, from preventing people from getting cancer to end-of-life care. We want to highlight the following shifts in the delivery of cancer services:

1. Improvements in cancer screening services – the introduction of the Faecal Immunochemical Test (FIT) in the bowel screening programme, and Human Papilloma Virus primary testing in the cervical screening will improve our ability to diagnose cancers earlier. The introduction of FIT will significantly impact the stage at which we are able to diagnose bowel cancer – this means that we will see more primary bowel cancers. This will affect the treatments needed for these patients.
2. New screening services – in the next 10 to 15 years, there could be the introduction of a new screening programme for lung cancer following the current pilots to diagnose high-risk patients with low-dose CT. This would shift stage of diagnosis for lung cancer. If this programme is introduced, it would increase demand for nurses to signpost and triage people in this service.
3. New diagnostic techniques – many diagnostic tools are currently being rolled out or in the research pipeline. This includes interventions such as using the FIT for symptomatic patients and developing our understanding of biomarkers, using blood or other samples, for early detection. The potential impact of these is currently unknown, but the diagnostic services must be equipped to adapt to these potential changes.
4. The genomic medicine plans developed by the Department of Health and NHS England will shift the delivery of both diagnostics and treatments services to more personalised medicine. This has the potential to improve our understanding of patients' diseases. By 2035, it is likely that most people will have whole-genome sequencing as it will be cost effective. This will have large implications for the genomics services and clinical science. Many will also have immune scoring and other parameters as part of their diagnosis and treatment.
5. The increased focus on testing for hereditary conditions and surveillance for those people with high-risk conditions could improve our ability to diagnose cancer early. The rise of chemopreventative drugs can

significantly reduce the risk of cancer and be cost effective (as many are off-patent). We will likely see greater improvements in chemoprevention in coming years as our understanding of our immune system and how it can stop cancer becomes deeper. It is possible that around 20% or more of young people will, by 2035, have their whole genome sequenced as a child. Having knowledge of a child's genetic profile will dramatically change how we support people and patients to make the right decision about their health. This will mean further demand on the genetic services, especially genetic counselling.

6. The British Society of Gastroenterology has also highlighted the potential that complex interventional endoscopy can play to avoid major surgery or repeat procedures to the benefit of the patients. We would recommend discussing this with the BSG to understand the potential gains and impacts on the cancer services and endoscopy workforce.
7. As we see the shift towards earlier detection of cancer, there will be a greater role for interventional radiology especially for loco-regional disease. We would recommend discussing this with the Royal College of Radiologists to understand what opportunities are being developed for treating cancer.
8. Advanced technology (such as Artificial Intelligence) will deliver improvements for the imaging and pathology services. The future diagnostic services must explore how AI can be used for diagnostic tests and establish data standards so that this could be introduced and used widely in the NHS. It is likely that digital pathology and radiology will be mainstream by 2035. However, it is important to highlight that these improvements will not replace the need for diagnostic staff in the future. All diagnostic staff will be needed to confirm the diagnosis, clinical radiologists will be needed for more complex cases and we will still need diagnostic radiographers to do the scans. KPMG have estimated that digital technology could save around 10% of diagnostic spend (from personal communication).
9. The use of genomics and improvements in our understanding of what treatments are most effective will mean that cancer treatments will become more targeted. This has the potential to improve side effects for patients and the recovery following treatments.
10. Alongside more targeted treatments, improvement in the use of immunotherapy can deliver improvements for patients. However, early trials for immunotherapy are suggesting that the side effects of immunotherapy (which can be more severe than other treatments) increases the need for support and rehabilitative care. This would include the need for more patient care in hospital rather than at home, which would affect the support staff needed in hospitals. Staff must also be trained to understand how to manage side effects of these innovative treatments – this will especially affect specialty nursing and oncology staff.
11. Cell and gene therapies, potentially with personalised techniques, are also likely to be adopted to a larger degree in the future. This will affect the facilities needed and the workforce.
12. We will also see an increase in combination therapies – for example, combinations of chemotherapy and radiotherapy to treat cancer. We must ensure that the professionals involved in delivering one of the treatments are able to collaborate with others in the service.
13. In surgery, we will likely see increased use of robotics and non-invasive techniques. This will not only provide better outcomes, but less time in hospitals for patients. Surgery staff must have enough time to learn and teach others these novel techniques.
14. Across the patient pathway, this increase in personalised medicine, and using advanced technology for health purposes could increase how we stratify programmes based on risk. For example, primary care providers are looking at the potential for Artificial Intelligence to identify high-risk patients that might need additional support to quit smoking, those eligible for screening, and patients recovering from treatments.

1c. **Social, political, economic and environmental:**

Within this driver of change, we believe that the following will have an impact on cancer services:

1. Lack of sustainable funding for public health – short term thinking on public health could have untold consequences on our health services in the future. The Cancer Strategy for England set the ambition to improve patient outcomes across the patient pathway starting with improvements in the preventative causes of cancer. We know that investing in smoking cessation services work, however, the decreasing funding to local authorities means that these are being shut down across England. This could particularly impact on sustainability in the future as, ultimately, preventing disease is much more cost effective than treating it.
2. Lack of sustainable funding more broadly across the health service would also impact the cancer services – this is particularly concerning when looking at workforce planning. Workforce planning is currently done based on available budgets rather than focusing on the workforce needed to deliver the best care and experience for patients. We understand that workforce planning must be focused on budgets, however, there is a lack of recognition of the overstretched cancer service currently delivering care for patients. Without appropriate levels of sustained investment in the health service, we will not be able to see an uplift in salaries within certain staff groups, improvements in staff retention and ability to train more new staff to deal with rising demand. When considering investment in staff we must also factor in the role of private sector providers, especially given their growth across the patient pathways. The ability of private sector to attract and retain staff who would otherwise be in the NHS is significant.
3. We must consider how we are able to recruit international staff. Although the impact of the UK leaving the EU on migration policy is still unknown, the need for recruiting from outside the UK to the health service is evident from the large number of international staff. Any workforce planning models must consider hospitals' ability to recruit from outside the UK, especially due to the migration cap for non-EEA nationals.
4. The exit from the European Union could also affect the treatments available to patients. Lack of regulatory alignment on drugs licencing and clinical trials could reduce our ability to treat patients with the most innovative treatments and techniques. It could also slow down our research on new diagnostic methods and treatment options.

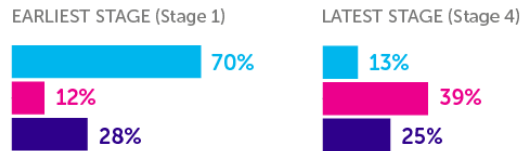
1d. **Current and future service models:**

With ambitions to increase the proportion of people diagnosed at an early stage, this will change the treatment options needed. Early stage cancers are more likely to be treated with surgery and/or radiotherapy, offering the chance of a cure with fewer long term side effects, although sometimes chemotherapy might still be the best option for the patient¹⁵. Patients diagnosed at stage 4 are around 3 times as likely to have chemotherapy than those diagnosed at stage 1 (demonstrated in figure 2).

FIGURE 2: CANCER TREATMENT BY MODALITY

WHAT'S THE MOST COMMON TREATMENT FOR CANCER?

Patients in England diagnosed early are more likely to have surgery than chemotherapy*.



If surgery is an option, it often provides the best chance to cure the cancer and causes fewer side effects. But chemotherapy is still sometimes the best option for a patient.

*All cancers combined for radiotherapy and chemotherapy, 22 cancer sites for surgery

Source: Public Health England/Cancer Research UK

LET'S BEAT CANCER SOONER
cruk.org



Ultimately, to drive improvements in earlier diagnosis more people will need investigative tests. This is in part because the population is growing and aging, increasing demand even in a 'do nothing' scenario. But evidence suggests that performing more tests leads to better outcomes. For example, analysis shows (on average) oesophago-gastric cancer patients belonging to practices with the lowest rates of gastroscopy are at greater risk of poor outcomes.

Whilst we acknowledge that productivity of some diagnostic services could be improved by increasing efficiency, these productivity gains are unlikely to release all the capacity that's needed. Productivity improvements have been explored in the past and there are ongoing improvements through changes to pathways and processes, as explored through initiatives such as the National Optimal Lung Cancer Pathway, and new diagnostic pathways suggested by the Accelerate, Coordinate and Evaluation (ACE) programme to improve the speed at which someone is diagnosed in secondary care. Many of these approaches are being explored by new Cancer Alliances as part of their Transformation Funding bids.

Developing models for cancer services will drive forward change across England. We believe the following will have a potential impact on the cancer services in the future:

1. The introduction of Multi-diagnostic centres – the pilots currently underway suggest the future of diagnostic services for vague symptoms could be focused around 'one-stop shops' to diagnose patients. This would take some workload away from GPs and radiology departments, but require a broader range of resting capabilities in concentrated centres.
2. Federations of primary care - the primary care service has, in recent years, been moving towards further collaboration between different practices. This means that primary care services could be transformed in the next years and we will need a workforce which reflects this.
3. Delivery of chemotherapy closer to home – the agenda to move chemotherapy closer to the patient's home will have an impact on how we are able to deliver chemotherapy and the staff needed.
4. Networked approaches – in imaging, pathology and radiotherapy, we are moving towards networked approaches to share staff and resources across different trusts. This will have a significant impact on how cancer services are delivered to patients.
5. Introduction of Accountable Care Organisations and continued development of regional planning through Sustainability and Transformation Plans and Cancer Alliances. These will require long-term implementation as they require whole-system reviews. The impact on the workforce must not be ignored.

6. Delivery of care across national borders. To take just one example - the introduction of the proton beam centres in London and Manchester, which will deliver cancer treatments for patients across the UK, workforce planning must be joint up across the UK.
7. The cancer workforce moves across national borders for new opportunities, and any workforce planning must reflect the movement of staff from one UK nation to another.

1e. **Expectations (of patients / staff):**

In 2016, Cancer Research UK and Macmillan Cancer Support convened the cancer community (charities and professional bodies) to agree what we considered the principles for the future cancer workforce. We agreed that the cancer workforce strategy should:

1. Take a strategic approach, looking at the current and future cancer and related workforce across the cancer pathway, bearing in mind increasing incidence and survival as well as the shifting landscape of healthcare delivery.
2. Determine the scale of both immediate and future workforce gaps and develop a plan to address them, beyond just increasing numbers.
3. Suggest how responsibility for workforce planning and strategic oversight will work in future, balancing national and local priorities.
4. Demonstrate how the workforce can be educated and supported to develop the right skills, training, and behaviours to confidently deliver high quality and compassionate care.
5. Develop an attractive career progression offer for existing and future staff, which improves recruitment and retention and supports a flexible workforce.
6. Improve the coordination of care and the use of different roles across sectors, professions, conditions, and locations to better meet the holistic needs of people affected by cancer.
7. Examine how we can support and make best use of our salaried and un-salaried workforce, including carers and volunteers.
8. Focus the delivery of care on the needs and experiences of the individual person.

The focus on co-design has been growing in recent years suggesting that patients will continue to expect to be involved in the decisions made about their treatment and care. Patients are expecting joined-up pathways where technology enables the workforce to follow them through from start to finish. This includes access to test results and information about their care when needed. The workforce needs to be equipped to deal with this. We would suggest reviewing the most recent National Cancer Patient Experience Survey results to understand what patients' experiences can tell us about the future of cancer services.

In recent years, there has also been a move towards more flexible careers, including portfolio careers, part-time working and remote working (including telemedicine). With the increase in technology and innovation, it is likely that this will continue to grow in future years. Future workforce planning and strategy must take into consideration how to address these expectations from staff.

2) What EVIDENCE is there on how the drivers identified in Section 1 are likely to IMPACT ON THE FORECAST DEMAND for healthcare in cancer over the next ten to fifteen years? Please rate the likelihood of each impact on a 5-point scale where 1 = very unlikely to 5 = very likely; use 0 if the likely impact is unknown.

DRIVER of change	EVIDENCE (citation / link)	IMPACT on demand	LIKELIHOOD of impact 0 (unknown), 1 (very unlikely) – 5 (very likely)
a. Demographics and Epidemiology	<ul style="list-style-type: none"> • Smittenaar, C., Petersen, K., Stewart, K., & Moitt, N. (2016). Cancer incidence and mortality projections in the UK until 2035. British Journal of Cancer. • Cancer Research UK blog on rising cancer incidence • Cancer Research UK (2016) Aiming high: why the UK should aim to be tobacco-free • Cancer Research UK (2016) Tipping the scales: why preventing obesity makes economic sense 	Major impact on demand for healthcare	5
b. Technology and Innovation	<ul style="list-style-type: none"> • Cancer Research UK (2017) Full team ahead: understanding the non-surgical cancer treatments workforce • Cancer Research UK (2014). An evaluation of cancer surgery services in the UK. • Cancer Research UK (2015). Horizon scanning: an evaluation of imaging capacity across the NHS in England. • Cancer Research UK (2015). Scoping the future: an evaluation of endoscopy capacity across the NHS in England. • Cancer Research UK (2016) Testing times to come? An evaluation of pathology capacity across the UK. • Cancer Research UK (2017) Meeting patients' needs: improving the effectiveness of multidisciplinary team meetings in cancer services • Moss et al 2016. Increased uptake and improved outcomes of bowel cancer screening with a faecal immunochemical test: results from a pilot study within the national screening programme in England. Gut 66(9):1631-1644. 	Technology and innovation is likely to have a significant impact on the cancer service and workforce. However, we believe the improvements might not affect the demand for healthcare to the same degree as demographics and epidemiology.	5
c. Social, political,	<ul style="list-style-type: none"> • Health Foundation (2016) Fit for purpose? Workforce planning in the English NHS 	Without sustained investment and improved workforce planning in all	4

<p>economic and environmental</p>	<ul style="list-style-type: none"> • National Audit Office (2016) Managing the supply of NHS clinical staff in England • Cancer Research UK and Action on Smoking and Health (2018) Feeling the heat: decline of Stop Smoking Services in England 	<p>parts of the health service, we will be unable to improve our outcomes and demand for healthcare in the future.</p>	
<p>d. Service models – current and future</p>	<ul style="list-style-type: none"> • Accelerate, Coordinate, Evaluate (ACE) projects • Shawihdi M, Thompson E, Kapoor N, <i>et al</i> Variation in gastroscopy rate in English general practice and outcome for oesophagogastric cancer: retrospective analysis of Hospital Episode Statistics. Gut 2014;63:250-261. Available here: http://gut.bmj.com/content/63/2/250.short • Public Health England (2013) Poorer outcomes for oesophageal and gastric cancer linked to ‘huge variation’ in endoscopy referral rates between GP practices • Department of Health (2016) Operational productivity and performance in English NHS acute hospitals: unwarranted variations • NHS Improvement (2012) Rapid review of endoscopy services 	<p>The introduction of new service models will hopefully decrease the demand for cancer services as patients are being diagnosed and treated earlier. If we can deliver the early diagnosis improvements, we will have a different patient population with earlier stage cancers. This could mean less demand for long-term treatment as more patients receive curative treatments. It could also mean the types of treatment that people have would change.</p>	<p>4</p>
<p>e. Expectations – patients / staff</p>	<ul style="list-style-type: none"> • Quality Health (2016) National cancer patient experience survey • A shared vision for a strategic review of the cancer workforce 	<p>Patient expectations will have an impact on forecast demand, whereas staff expectations will mostly impact forecast supply.</p>	<p>3</p>

3) What are the potential **IMPLICATIONS FOR THE WORKFORCE** of these changes (please cross reference to the previous sections) and where in the health and care pathway are they most likely to impact (e.g. *prevention / diagnosis / treatment / living with and beyond cancer / palliative care*)?

Driver of change	Implication for workforce	Pathway impact
<p>a. Demographics and Epidemiology</p>	<p>Patient demand is projected to increase in future years. This means that more staff is needed to deal with this patient population with more complex needs. This demand will be seen across the patient pathway:</p> <ul style="list-style-type: none"> • The public health workforce in community and primary care must be able to support more people with ongoing health concerns, especially as the number of people ‘living with and beyond’ cancer will continue to rise. • In primary care, more people will need support with ongoing health concerns and ‘living with and beyond’ cancer. • In the diagnostic services, pressure will continue to rise as more people will require tests. • In treatments, we are likely to see more patients being treated. As mentioned in section 1, if we can deliver the early diagnosis agenda, we are likely to see increased demand for surgery and radiotherapy, which are effective when treating with curative intent. • The potential increase of surgery and radiotherapy treatments due to stage shift does not mean that we need fewer staff to deliver chemotherapy. This is because we will see more people living with and beyond cancer, therefore requiring more long-term treatment and care. It may, however, mean less of an increase than otherwise predicted. 	<p>All pathways</p>
<p>b. Technology and Innovation</p>	<p>We believe that technology and innovation have the potential to deliver significant improvements to the cancer services. Most importantly, these improvements do not equate to less staff being needed.</p> <p>These changes highlight the importance of having a workforce that can adapt to new innovations and technological developments. This includes having time to do research and to adopt effective research in the NHS. Our recent report on the non-surgical cancer treatments workforce highlighted that nearly 3 in 4 of this workforce thinks that staff shortages are having an impact on their ability to deliver effective treatments and excellent patient experience. This also included their capacity to conduct clinical research.</p> <p>These are the ways we believe these improvements will affect the cancer workforce:</p> <ol style="list-style-type: none"> 1. Introduction of FIT in bowel screening will increase the demand for endoscopy and pathology. It has been recommended that FIT is implemented in England at a threshold of 120 micrograms of Hb per gram of faeces ($\mu\text{g/g}$), with a reduction in threshold over time. If the threshold was lowered to the $80\mu\text{g/g}$ threshold used in Scotland, compared with $120\mu\text{g/g}$ we estimate that potentially around 1,100 more cancers could be detected through the bowel screening programme each year. And 6,700 more patients detected with ‘advanced’ adenomas. However, this would require nearly 23,000 extra colonoscopies per year to follow up an abnormal FIT screening result (this 	<p>All pathways</p>

doesn't include the extra 'surveillance' colonoscopies that would also be required). A significant amount of extra pathology resource would also be required to test the pathology of samples from the colonoscopies. Estimated by assuming 4.5 million people will be invited to FIT bowel screening in 2018/2019, and extrapolating data from the England FIT pilot study provided on request by Stephen Halloran.

There would be larger gains in cancer and adenoma detection when the threshold is lowered further. For instance, compared with the threshold of 120µg/g, if it was lowered to 20µg/g in England, it's estimated that around 3,300 more cancers and 34,000 more advanced adenomas could potentially be detected through screening each year. But 157,000 extra follow-up colonoscopies would be required each year, which would be roughly 200 extra per screening centre per month on average (again, this doesn't include the impact on number of surveillance colonoscopies.) The impact on pathology services might be even more significant. We recommend looking at emerging School of Health and Related Research work commissioned by Public Health England. This work so far suggests that lower thresholds are the most cost-effective, but are dependent on diagnostic workforce capacity.

2. **Introduction of HPV primary testing in the cervical cancer screening programme** – this is likely to have a positive impact on the demands of the colposcopy services as well as the cervical screening service i.e. reduced staff needs. We would recommend discussing the conclusions drawn so far at the HPV implementation group led by Public Health England.
3. **New screening programmes** such as the potential introduction of lung screening in England would have a significant impact on both clinical radiologists and diagnostic radiographers. This new screening programme is likely to increase the need for community nurses as they would be responsible for triage into CT screening.
4. **Increased use of new diagnostic techniques** such as the use of biomarkers will increase the demands on the laboratory services, including pathology and clinical science. This includes the increase in genomic medicine for future diagnostic and treatment options as outlined in the Department of Health genomic medicine plan.
5. **Complex interventional endoscopy** could reduce the need for major surgery and invasive procedures, but will increase the pressures on the endoscopy service.
6. **Advanced technology for diagnostic services**, such as AI in imaging, will automate some more fundamental work; however, it will enable us to diagnose with more complex technologies. This therefore does not mean that we will necessarily need less staff in the future, although some work will be automated.

	<p>7. Training on digital technologies and data improvements will also be needed by all staff to understand how we can use the information gathered and the new technologies to prevent more cancers, diagnose patients earlier and deliver the best treatments. Training of this kind would also improve our research capabilities as staff understand how the delivery of cancer care is improving.</p> <p>8. Targeted treatments will increase the need for more planning time ahead of treatments being delivered to ensure that the treatments are effective. More detail on the workforce implications for this can be found in our 'Full team ahead' report published in December 2017.</p> <p>9. Immunotherapy treatments could increase the need for more support staff as many of the current clinical trials show a high level of side effects following these innovative treatments.</p>	
c. Social, political, economic and environmental	<p>Without increased investment in health service and policies to support the growing patient demand, we are likely to continue to be understaffed. This would be a significant barrier to deliver world-class cancer outcomes both now and in the future.</p> <p>Although we are not able to quantify the impact of the UK leaving the European Union, it is likely that it will have an impact our ability to attract, recruit and retain staff, therefore leaving the service short-staffed.</p>	All pathways
d. Service models – current and future	<p>The current and future service models could improve the cancer services provided for patients across England. As these models are in constant development, it is important that staff have enough time to understand how their roles will change.</p> <p>With many of these service models, including skill mix opportunities outlined in section 4a below, there might be an upfront cost to the health service for long-term gain. This should not be ignored when implementing these changes.</p> <p>The networked approaches across the pathway have the potential to affect the workforce's roles and responsibilities. This would be positive for sharing resources, career progression and sharing best practice. However, networks must consider the support needed to implement these changes – including IT solutions and contract changes.</p>	All pathways
e. Expectations – patients / staff	<p>The expectations of staff will mean that workforce plans must be flexible to accommodate flexible careers, part-time working, and a more mobile workforce.</p> <p>The patient expectations highlight the increasing demands on the workforce to discuss care options with patients. This means that the workforce must have increasing time to spend with patients, especially when making decisions about their cancer treatment.</p>	All pathways

4) What WORKFORCE TRANSFORMATION OPPORTUNITIES should we explore to ensure we have the workforce with the right skills, numbers and behaviours to meet patient and population needs?

Please use the workforce transformation categories below if this helps, and indicate which of the drivers of change each opportunity could address.

4a. Upskilling (of existing staff):

(Explanation: Interventions that increase the depth or scope of a person's role by extending their skills and responsibilities to enable them to practice at the top of their license; may include extending practice across traditional professional and / or organisational boundaries.)

In the diagnostic services, we would recommend investing in more staff and resources to increase the following skill mix approaches:

1. Radiographer reporting – we welcome the focus on this in the Phase 1 response. This must continue to be driven forward in Phase 2 of the cancer workforce plans. Further details in our 'Horizon scanning' report.
2. Clinical endoscopists – we welcome the focus on this in the Phase 1 response. This must continue to be driven forward in Phase 2 of the cancer workforce plans. Further details in our 'Scoping the future' report.
3. Biomedical and clinical scientists – we would welcome further focus on improving skill mix approaches within pathology to increase capacity. Further details available in our 'Testing times to come' report.

In the treatments services, we would recommend investing in more staff and resources to increase the implementation of non-medical prescribing, and non-medical professionals taking on responsibility for treatment review, radiotherapy treatment planning, and radiotherapy plan checking. Further details can be found in our 'Full team ahead' report.

4b. New Roles:

(Explanation: the creation of an additional health and care role to meet a defined workforce requirement – usually warranting a new job title, a bespoke education and training requirement, a career framework and national recognition by clinical / professional / regulatory governing bodies.)

We welcome the recent framework published by HEE for advanced clinical practice. In our recent report on the non-surgical cancer treatments workforce ('Full team ahead' attached to email), the potential presented by advanced clinical practitioners was highlighted.

4c. New Ways of Working:

(Explanation: Interventions to develop an integrated workforce culture that breaks down traditional system barriers to enable delivery of person-centred care.)

As outlined in the sections around 'current and future service models', we have outlined our support for networked solutions for improved workforce capacity.

4d. Leadership

(Explanation: Interventions that support individuals, organisations and / or systems to develop leadership capability – these might be targeted at individual behaviours and skills or organisational development through partnerships)

4e. Supply (of staff):

(Explanation: Interventions to increase the number and / or availability of current and future workforce with appropriate skills and capabilities)

In both our diagnostic workforce paper and the report on the non-surgical cancer treatments workforce, we outline the concerns we have around the shortfall we will have in the future. To deliver world-class outcomes, we must invest in the cancer workforce. We have attached both documents for reference.

5) If you have any other comments to add which you think will be helpful please add here:

Cancer Research UK believes that workforce planning at a national level should be based on the workforce needed to meet patient demand. This should incorporate the current and future needs of patients, including increasing demand for services, new treatments in the pipeline, and any shifts that will be seen due to early diagnosis interventions and other factors.

Current workforce planning is developed through asking hospitals to report and predict current and future vacant positions to fill roles available. They based their reports and predictions on the number of staff they would be able to afford in their current budgets rather than how many staff members they would ideally need to diagnose and treat all patients. This means that workforce planning is currently based on the size of hospitals' budgets rather than the staff needed to deliver services on time and effectively.

In order to demonstrate a different way of developing workforce plans, we built a 'best practice model' to estimate how many staff we would need to deliver 'best practice treatments' to patients (Appendix 6 of Full Team Ahead). This includes ensuring that all staff have time for training and development, service improvement and clinical research and work contracted hours. The model was built using evidence-based guidelines and extensive clinical consultation to identify the treatment pathway steps that are needed for each patient, and the time required for the treatment team to deliver these to a high standard. This gives us a picture of actual patient need in oncology services, highlighting the difference between the modest vacancy rates and the widely-reported pressures and worsening performance in UK cancer services.

When thinking about the cancer workforce needed after 2021, we believe Health Education England should:

- Use our 'best practice treatment model' to project required workforce numbers based on patient demand, not on affordability in hospitals' budgets
- Address the shortfall in the diagnostic and treatment workforce looking at both short- and long-term solutions to deal with growing patient demand. This should include support for skill mix interventions
- Consider the impact of new technologies and emerging service models on the workforce needed
- Protect time in staff's contracts for research, service improvements and training of current and new staff

Please submit your contact details here:

Name: **Camilla Pallesen**

Contact email: camilla.pallesen@cancer.org.uk

If you are responding on behalf of an organisation please state your:

Organisation **Cancer Research UK**

Organisational role: **Policy Adviser**

Type of organisation (please circle):

charity/non-profit; professional body; NHS arms length body; NHS service provider; NHS commissioner; independent provider; other (please state)

Thank you very much for taking part in our Call for Evidence

Please send your response to cancerstrategy@hee.nhs.uk including in the subject line of the email ' attaching any source documents where possible.