Cancer Research UK policy statement on the future of the NHS cancer workforce in England

Summary

The diagnosis and treatment of cancer relies on an array of skilled NHS professionals performing specialist tasks like running and reporting diagnostic tests, performing diagnostic procedures and giving treatments to patients. Diagnosing cancer at an early stage, when treatment is much more likely to be successful, is critical to reaching our ambitions to improve survival for people affected by cancer. But UK cancer survival continues to lag behind other comparable health systems, in large part because we tend to diagnose cancer at a later stage. We can and must do better on early diagnosis for all people affected by cancer.

The Government and the NHS recognise this and have committed to improving early diagnosis. The NHS England Long Term Plan (LTP) targets diagnosing 3 in 4 patients at an early stage (1 & 2) by 2028, up from just over half of patients currently, backed by several initiatives to support this improvement. If this ambition is met it could save thousands of lives and help close the survival gap with comparable countries.

A major enabler to achieving the LTP ambitions is having the right workforce capacity to implement the necessary changes in the NHS. But right now, staff shortages are affecting every part of the cancer pathway. Addressing workforce shortages is an issue that has been widely recognised as a “make or break” issue for the NHS, including in the 2015 Cancer Strategy for England. For example, 1 in 10 diagnostic posts are vacant meaning services are struggling to meet demand, highlighted by worsening performance against the 62-day Cancer Waiting Times standard. And research by Cancer Research UK found that nearly 3 in 4 staff surveyed in non-surgical oncology services see staff shortages as a barrier to providing efficient cancer treatments and excellent patient experience.

Demand on cancer services is only going to grow. An ageing and growing population will mean over 500,000 people will be diagnosed with cancer each year in the UK by 2035 (150,000 more than in 2015); of these 46% will be over 75 (up from 36% in 2015). The initiatives in the LTP to improve early diagnosis will also put more pressure on the NHS to diagnose and treat more people. In addition, if we meet the early diagnosis ambition then we are also going to need to have a cancer treatment workforce that is sufficiently equipped to meet demand.

The NHS has started to resolve staff shortages related to cancer in the short term. In December 2017, Health Education England (HEE) published the first part of its plan for the cancer workforce, containing actions to grow the cancer workforce by an additional 4126 staff by 2021. And we understand that this is beginning to have some positive impact. In addition, the recent Interim People Plan sets out some short-term actions to change the working culture in the NHS, improve skill mix by enhancing training and developing new roles, develop technological capacity in the NHS workforce, and make workforce planning fundamental to local NHS plans.

These actions are welcome and will make an important contribution. But short-term solutions are not sufficient. The reality is that significant growth in the NHS workforce will still be needed to meet future demand and the Government’s ambitions. The potential for new technologies to help alleviate the pressure is promising, but overestimated – while technology may be capacity-releasing it cannot negate the need for more highly skilled professionals. For example, while there is broad consensus that there are several tasks in the diagnostic pathway to which Artificial Intelligence (AI) can

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1 Particularly in diagnostic professions such as Radiologists, Pathologists, Endoscopists and Diagnostic Radiographers.
potentially be applied, such as in breast screening mammography, there are significant barriers to the adoption of these techniques which mean that their impact is likely to be limited within the next 5-10 years\textsuperscript{xv}

We therefore welcome that the Interim People Plan acknowledges that steady growth will be required in the “substantive clinical workforce”. It is vital that the final People Plan includes a clear long-term plan for increasing the number of professionals in the cancer workforce, informed by key service changes. Cancer Research UK estimates suggest that we may need to double the NHS cancer workforce across several key professions by 2027 just to meet demand\textsuperscript{xvi}

The Government must act now to protect the future of NHS cancer services and allow them to close the gap to the best of the world by providing a new deal for medical education and training. HEE has suffered a real terms budget cut of over £800m since 2015/16\textsuperscript{xvii}, limiting its ability to deliver workforce growth. Without sufficient investment, the NHS will be unable to break the cycle of short-termism in workforce planning and the Government’s ambitions for cancer won’t be met.

Cancer Research UK therefore makes the following recommendations of the Government, NHS England and Improvement, and Health Education England:

1. **The Government** must be bold and invest so there is sufficient funding for HEE to train the workforce the NHS needs for the future. At the very least training and education budgets should see the same real terms growth as the investment in NHS services (3.4%) to be fit for the future.

2. The Government should ensure that there is clear accountability in the NHS for workforce planning and take responsibility for ensuring that there are adequate staffing levels in the NHS.

3. **NHS England and Improvement** must ensure that the final People Plan includes a demand-led, long-term plan for workforce growth, including a demand-led growth projection of staff numbers for cancer. HEE developed a ‘phase 2’ cancer workforce plan, which focussed on future needs and was a positive start. It is vital that this good work is not lost and is fed into the development of the People Plan.

4. NHS England and Improvement must quantify, in detail, the workforce impact of key service changes and commitments contained in the Long Term Plan so that the People Plan is informed by an understanding of what is needed.

5. NHS England and Improvement should continue to play a co-ordinating role in workforce planning by bringing together key national organisations and supporting local NHS systems to produce sophisticated and realistic workforce plans.

6. NHS England and Improvement must make it a priority to improve the provision of workforce intelligence in the NHS, improving the data that is available nationally and locally and increasing the transparency of this data.

7. **Health Education England** must produce an informed plan for the future shape and number of training places to ensure that there are sufficient staff in the cancer workforce to achieve the ambitions of the future.

8. Health Education England should continue to develop interventions to improve workforce retention, improve the skill mix of NHS staff, and address regional inequalities in workforce shortages, in line with the NHS People Plan.
Below we set out in more detail further evidence on the cancer workforce and the action needed to address key shortages.
Further information

This section sets out in more detail why workforce shortages are such a barrier to improving cancer outcomes; why the problem is set to become more acute in the future; and the action CRUK believes is necessary to resolve workforce shortages.

Information about the NHS workforce is limited, which makes it difficult to obtain a true picture of the state of the workforce, including which areas are worst affected, which staff groups have the most significant problems, and to what extent the workforce is growing or contracting. Aggregate data is published, but this does not support a granular view of workforce challenges in the NHS and is sometimes subject to quality issues, as our research has found.

The interim People Plan commits to producing a single workforce dataset at the national, regional and local level – this is an essential component of effective workforce planning and should be implemented as a priority, with regular publications made from the data. In the absence of such data, CRUK’s policy on the NHS workforce has been based on analysis of what data there is in the public domain, as well as commissioned research which has combined public data, data from Royal Colleges, survey data and other sources to try to establish a more accurate picture of the challenges in the cancer workforce.

Our argument for action on the cancer workforce is set out below and is broadly as follows:

1. Workforce shortages are a major barrier to world class cancer care
2. Short-term action is important, but not enough
3. Action is needed now to secure the future of the cancer workforce
4. Working differently could help relieve pressure
5. A long-term, demand-led approach is needed
6. The Government must invest in the future of the workforce

Workforce shortages are a major barrier to world class cancer care

There are many skilled professionals involved in the diagnosis and treatment of cancer, performing essential and specialist tasks to help patients reach a diagnosis and to provide them with high quality treatment. These tasks include running and reporting diagnostic tests, such as CT and MRI scans, performing diagnostic procedures such as biopsies or endoscopies, and delivering treatments to patients\(^2\). But right now, staff shortages are affecting every part of the cancer pathway and are a barrier even to providing effective care to patients today, let alone to meeting the transformative ambitions of the Long Term Plan (this is set out in more detail below).

Currently, 1 in 10 posts in the NHS is vacant – and the interim People Plan estimates that without action, this will rise to over 1 in 7 by 2023/24. This includes the cancer workforce. Problems in the diagnostic workforce are well documented and are affecting the NHS’s ability to carry out the additional diagnostic tests that are needed to meet growing referrals. For example:

- Only 3\(^{\text{rd}}\) of histopathology departments feel they have enough staff to meet patient demand\(^{\text{viii}}\)
- 3 in 4 clinical directors of UK radiology departments feel there are not enough radiologists to deliver a safe and effective level of patient care\(^{\text{ix}}\)

\(^2\) Health Education England’s phase one cancer workforce plan includes the following key professions:
Histopathology and healthcare scientists; gastroenterology; clinical radiology; diagnostic radiography; medical and clinical oncology; therapeutic radiography; and nursing. There are other professions that are important to diagnosing and treating cancer (such as GPs), but these professions are those where all or a significant proportion of their work relates to patients with cancer.
- There are 379 vacant consultant radiology posts, 60% of which have been vacant for over a year\textsuperscript{xv}
- Only 2\% of radiology departments are fulfilling their reporting requirements within contracted hours\textsuperscript{xi}
- There is a 12\% vacancy rate in gastroenterology according to HEE’s phase one cancer workforce plan\textsuperscript{xii}

As well as shortages in the diagnostic workforce, there are also staff shortages in professions delivering vital cancer treatments:

- There is a 7\% vacancy rate in clinical and medical oncology according to HEE’s phase one cancer workforce plan\textsuperscript{xiii}
- CRUK’s research into the non-surgical oncology workforce found that vacancy rates are likely to be underestimates
- Nearly 3 in 4 staff in non-surgical oncology services believe staff shortages are a barrier to providing efficient cancer treatments\textsuperscript{xiv}

These shortages have harmed the NHS’s ability to deliver high quality cancer care – for example, there have been several high-profile cases recently of hospitals closing or having to consider closing chemotherapy units due to staff shortages\textsuperscript{xv, xxvi}.

Staff shortages are particularly troubling because demand on cancer services continues to grow. For example, in 2018 there were over 1.9 million urgent GP referrals for suspected cancer – 40\% higher than the equivalent period four years previously\textsuperscript{xxvii}. This is welcome as earlier GP referrals give patients the best chance of receiving an early diagnosis of cancer. Yet as referrals have grown, performance against the 62-day wait standard, which measures the time from a patient’s referral to their first treatment for cancer, has steadily declined. This is largely because of a lack of staff to carry out vital tests – and the gap is growing, as shown below, where the growth in urgent referrals is mapped against workforce growth in key professions. While we would not necessarily expect growth in these two areas two be totally proportionate, it is clear from this graph that the gap is growing wider and that growth in demand is outstripping growth in capacity\textsuperscript{3}.

\begin{figure}[h]
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\includegraphics[width=\textwidth]{chart.png}
\caption{Urgent referral growth vs workforce growth. CRUK calculations, based on data from NHS Digital (NHS workforce statistics) and NHS England (‘Cancer waiting times, monthly provider-based data and summaries.’) Accessed May 2019.}
\end{figure}

\textsuperscript{3} Growth in diagnostic staff vs patients urgently referred for suspected cancer. CRUK calculations, based on data from NHS Digital (NHS workforce statistics) and NHS England (‘Cancer waiting times, monthly provider-based data and summaries.’) Accessed May 2019.
Action is needed now to secure the future of the cancer workforce

More staff are needed just to meet future demand

The interim People Plan acknowledges that without action, vacancy rates will get even worse than they are currently. And even more pressingly, the number of patients who will need to undergo investigation for suspected cancer, and the number of cancer patients requiring treatment, is only set to increase as the population ages and grows.

By 2035, more than 500,000 people will be diagnosed with cancer every year – an increase of more than 150,000 on 2015 levels and equivalent to one person being diagnosed with cancer every minute. This increase is significant. Without urgent action to grow the workforce for the future, NHS cancer services which are already struggling to cope will be rendered completely unsustainable. CRUK estimates suggest that the workforce may need to double across key cancer professions just to meet this growing demand posed by increased numbers of patients.

Beyond just the numbers, the proportion of older patients is also set to grow significantly. By 2035 it is estimated that 46% of patients diagnosed every year will be aged 75 or over – a significant increase on 36% in 2015. This means that many more patients will be presenting with complex health needs, such as having multiple conditions, and require more staff attention – increasing the need for more staff even further.

Knowing what we do about how many people are expected to be diagnosed with cancer in the future, it is vital that we act now to safeguard the care of future cancer patients by making sure there is a workforce in place to meet their needs. And more than this, we need to act now to ensure that the NHS can improve care for future cancer patients.

Transforming services to achieve world class cancer outcomes

The Long Term Plan sets a bold ambition for the NHS to diagnose 75% of cancers at an early stage by 2028. Currently just over half of patients are diagnosed at an early stage, so this represents a potentially transformative shift that could save thousands of lives and help the UK close the survival gap with comparable countries around the world.

The NHS requires significantly more staff to make this transformative shift possible. Increasing numbers of patients mean that the NHS needs more staff just to stand still. To deliver the radical improvement in outcomes promised by the Long Term Plan will require an even greater increase.

For example, one of the flagship commitments of the Long Term Plan is to introduce the new Faecal Immunochemical Test into the Bowel Cancer Screening Programme. This test, which is simpler and more effective, has been shown to increase uptake of screening and has the potential to detect more early stage cancers and pre-cancerous changes in the bowel. Yet while this test is being introduced in England, which is very welcome, staff shortages in endoscopy services mean FIT is being introduced at a less sensitive level than in other countries. This means that more than 1,000 cancers and nearly 7,000 pre-cancerous changes could be missed per year compared to if England used the same sensitivity level as Scotland. HEE has acted to increase the number of clinical endoscopists working in the NHS in the short term, but a long-term solution needs to be found.

And beyond specific programmes like national screening programmes, achieving the 75% ambition will also require increased awareness of signs and symptoms of cancer to support early presentation of the public, and a continued effort to shift referral practices in primary care so that patients are referred earlier for investigation at a lower threshold of risk. The introduction of NICE NG12 referral guidelines has already precipitated a significant increase in referrals for suspected cancer – this is only set to increase as the guidelines are adopted in a more systematic way. Our 2018 paper on the future
of the cancer workforce identified this as one of several key shifts in cancer services which the workforce must be equipped to respond to – more diagnostic staff will be required to deliver an increasing volume of tests\textsuperscript{xxx}.

As more cancers are diagnosed at an early stage, more curative treatment options will be available to more patients. 70% of patients who are diagnosed with stage 1 cancer receive surgery – for patients diagnosed at stage 4 this proportion drops to 13%, with more late stage patients receiving chemotherapy or symptom management\textsuperscript{xxxii}. To take advantage of the opportunities offered by earlier diagnosis, more staff will be needed to deliver curative treatment. CRUK research has already shown that staff shortages in non-surgical oncology are a barrier to providing the best possible cancer care – a situation that will only worsen without action\textsuperscript{xxxii}.

### WHAT’S THE MOST COMMON TREATMENT FOR CANCER?

Patients in England diagnosed early are more likely to have surgery than chemotherapy\textsuperscript{*}.

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<tr>
<th>EARLIEST STAGE (Stage 1)</th>
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<tr>
<td>SURGERY</td>
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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

As well as more patients being able to access curative treatments, treatments for cancer are themselves changing. For example, as our research into the future of the cancer workforce highlighted, planning for new forms of radiotherapy is becoming more complicated, while the growth of genomic medicine will lead to more targeted treatments\textsuperscript{xxxiii}. The impact of these changes on the workforce needs to be understood.

These changes in diagnosis and treatment could have a huge impact on cancer survival in England, allowing thousands of people to survive their cancer for longer and helping to close the survival gap with comparable countries around the world. But the scale of the change required should not be underestimated – and neither should the scale and complexity of the workforce growth needed to support this change.
Working differently could help relieve pressure

Adopting skill mix approaches

There is some potential to introduce new approaches and technology in the NHS which could relieve pressure in the workforce by deploying staff resources more effectively and helping staff to work more efficiently.

For example, there are opportunities to use skill mix approaches in NHS cancer services, which involves building capacity in non-medical roles to perform some tasks that would traditionally be performed by doctors. Our research into the non-surgical oncology workforce found several key skill mix opportunities such as:

- Training more clinical pharmacists
- Training more therapeutic radiographers and enabling them to take on more responsibility for treatment planning and review
- Training more clinical technologists to enable more specialisation in radiotherapy dosimetry and complex planning

There are similar opportunities in diagnostic services, particularly through the creation of new roles such as clinical or nurse endoscopists, who are trained to carry out endoscopy procedures, and the training of more reporting radiographers, who can reduce the workload burden on radiologists by reporting increasing numbers of scans.

However, the impact of these approaches is limited by several factors. At present we have heard that the NHS is struggling to deliver sufficient numbers of these staff because their employers are unable to release their time for training in advanced practice – and because medical staff do not have sufficient time to deliver training. Skill mix approaches are also inconsistently adopted, which requires a co-ordinated approach to address.

New technologies

As well as potential in skills mix approaches, the development and harnessing of new technologies in the NHS has some potential to increase capacity. For example, artificial intelligence (AI) has some potential to support clinical decision-making through decision support tools, such as tools to assist clinicians to order the right diagnostic tests, or suggesting the relative value of different tests.

A CRUK roundtable also explored the potential for AI to read images directly, and found that there was applicability to tasks which:

1. Have a binary result (e.g. is this cell stained? Is this mammogram normal?) rather than requiring a complex interpretation of an image (e.g. what does this CT scan show?)
2. Are repetitive
3. Have large datasets underpinning them (e.g. screening programmes).

There was consensus on this basis that AI could be used in breast screening mammography within 5 years, and potentially for determining the prognosis of pulmonary nodules within 10 years. Even for these uses, which are still relatively far off, there are several fundamental enablers which must be in place: digitisation of images, good quality data, and capacity in both the technology and in human staff to harness this technology. The impact of AI in the next 5-10 years is therefore likely to be limited.

The potential for these technologies to reduce the need for staff is also overestimated – while they may be capacity-releasing they are not a silver bullet to negate the need for highly skilled professionals. Indeed, as the Topol Review into the impact of digital technologies on the health workforce found, these technologies will augment rather than replace the work of doctors – and this will rely on the health workforce being appropriately trained in the use of these technologies.
It is important that these factors, as well as barriers to skills mix approaches, are addressed by the full People Plan. But ultimately, while skill mix approaches can release some capacity, and improving the flexibility of the workforce is important, these changes are not a panacea. The reality is that significant growth in the NHS workforce will still be needed if the Government’s ambitions are to be met. It is therefore welcome that the interim People Plan recognises that steady growth will be needed in the substantive clinical workforce.

A long-term, demand-led approach is needed

Traditionally, workforce planning in the NHS has been based on filling existing vacancies according to what is affordable, not what is needed to deliver the best possible care.

This needs to change if we are to achieve truly world class cancer outcomes. We know how many patients are likely to be diagnosed with cancer in the future – NHS workforce planning should be based on meeting their needs, not just on filling existing vacancies.

Beyond this, a demand-led workforce plan should be informed by key anticipated developments in the NHS. Cancer Research UK has attempted to illustrate the potential impact of several key changes in cancer in our November 2018 paper, ‘Securing a cancer workforce for the best outcomes’. Based on analysis of clinical activity and clinical consensus around potential changes, this paper found that while there are some potentially capacity-releasing innovations in the pipeline, the picture is very complicated, with some innovations releasing capacity for some professions but increasing demand for others, and other innovations increasing demand in the short term but potentially releasing capacity over a longer timeframe.

The Long Term Plan sets out several changes which need to take place in the NHS to support the achievement of the early diagnosis ambition – and CRUK estimates that even with the implementation of these commitments, more transformation will be needed to achieve the 75% target. Like the changes considered as part of CRUK’s paper, the proposals in the Long Term Plan will have significant and complicated impacts on demand and capacity. The basis of the full People Plan for cancer must therefore be a robust analysis of the likely workforce implications of the key commitments of the Long Term Plan.

Added to this, the likely impact of new approaches such as skill mix or the introduction of new technologies is not well understood, and their adoption is inconsistent within the NHS. A long-term workforce plan should also be based on a realistic assessment of the potential for these innovations to release capacity.

Health Education England’s phase 2 cancer workforce plan was a positive start to this effort. We believe it is vital that this work is not lost and that it can inform the development of a genuinely demand-led long-term workforce plan for cancer, with detailed estimates for how many staff will be needed in the future.

NHS England and Improvement and HEE should work together to ensure that the full NHS People Plan has clear ambitions to grow the cancer workforce and enable it to deliver the transformation needed to achieve the ambitions of the Long Term Plan.

The Government must invest in the future of the workforce

HEE has suffered a real terms budget cut of over £800m since 2015/16, including a nearly 10% budget cut in cash terms between 2017/18 and 2018/19. These cuts have meant significant reductions in workforce development and CPD budgets, which has particularly undermined HEE’s ability to increase
retention in the short term, worsening the workforce crisis. And while HEE’s future workforce budget (which partly pays for the pipeline of training) has been protected in cash terms, ongoing real-terms cuts to this budget means that HEE will not be able to fund necessary future increases in workforce numbers within its current budget envelope.

Without increased investment in the workforce required to deliver NHS services, the new £20.5bn funding settlement for the NHS will be wasted. Unless there are more staff to deliver the new techniques and increased activity required to diagnose more cancers at an early stage, the Long Term Plan’s ambitions will not be met.

Cancer Research UK’s estimates suggest that just to reverse existing HEE budget cuts and restore 2015 real-terms funding levels would require an additional £1bn by 2023/24. At the very least we believe training and education budgets should see the same growth as the investment in NHS services to be fit for the future. This supporting investment is essential to achieving the Long Term Plan.

The Government must be bold and invest so that there is sufficient funding for HEE to train the workforce we need for the future.

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