SPH
Solutions for Public Health

NHS
Thames Valley
Strategic Clinical Network

# A review of current and future demand and capacity for cancer diagnostic services in the Thames Valley

Gynaecology, Urology, Lung, Colorectal, Upper GI

## Guidance Summary

National Reports Focused on Cancer
2014-2015

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## Introduction

This report is one of four reports produced by Solutions for Public Health (SPH) as part of a project commissioned by the Thames Valley Strategic Cancer Network (TVSCN) to review the current and future demand for cancer diagnostic capacity across the Thames Valley. This project reviewed demand and capacity in the following cancer specialties:

- gynaecology specifically ovarian, cervical, vulvar, and endometrial cancers),
- colorectal,
- upper GI (specifically oesophageal, pancreas and stomach cancers)
- lung
- urological cancers (specifically bladder, kidney and prostate cancers).

This report summarises six publications about cancer, released between March 2014 and September 2015 by a range of organisations including, the National Institute for Health and Clinical Excellence (NICE), Cancer Research UK (CRUK), the Independent Cancer Taskforce and a combined report by the Department of Health (DH), Public Health England (PHE) and NHS England. The summary includes the author's recommendations and suggestions about ways to proceed, for example, projects, initiatives or collaborations which might support the recommendations. When reviewing the NICE guidance some commentary is included by SPH about factors which could limit implementation operationally.

1. Achieving world-class cancer outcomes: A strategy for England 2015-2020. Report of the Independent Cancer Taskforce, August 2015[1]
2. Suspected cancer: recognition and referral. National Institute for Health and Clinical Excellence Guideline [NG 12], June 2015[2]
3. Horizon scanning: An evaluation of imaging capacity across the NHS in England. 2020 Delivery for Cancer Research UK, September 2015[3]
4. Scoping the future: An evaluation of endoscopy capacity across the NHS in England. Health Services Management Centre of the University of Birmingham and Lancashire Commissioning Support Unit for Cancer Research UK, September 2015[4]
5. Improving outcomes: A strategy for cancer fourth annual report. DH, PHE, NHSE, December 2014[5]
6. Delivering cancer waiting times – A good practice guide. NHS Interim Management And Support Intensive Support Team Elective Care Guide, March 2014[6]

## 1 Achieving world-class cancer outcomes: A strategy for England 2015-2020. September 2015[1]

This strategy document from the Independent Cancer Taskforce is the result of a wide consultation about how the NHS can deliver a step change in cancer outcomes. It offers a large number of recommendations with six priority areas over the next five years.

## 1.1 Overview

There is a national drive to achieve earlier diagnosis, which requires a shift towards faster and less restrictive investigative testing. The authors of the report recommend that by 2020, 95% of patients referred for testing by a GP are definitively diagnosed with cancer, or cancer is excluded, and the result communicated to the patient, within four weeks.

Delivering this will require a significant increase in diagnostic capacity, giving GPs direct access to key investigative tests and the testing of new models which could reduce the burden and expectation on GPs.

There are typically two phases of diagnostic investigation:

- First line of diagnostic tests – to determine if cancer is present.
- Second line of diagnostic tests – to determine spread of cancer which will inform treatment decisions.

Communication with the patient about the presence of cancer would likely take place after the first line of diagnostic tests, but before the second.

Making Every Contact Count is an initiative to promote messaging around lifestyle, risk factors and symptom awareness when people have an investigative test. This may be a time when people may be more receptive to this information. This represents a 'teachable moment' which could be used to help people modify aspects of their lifestyles to reduce a variety of conditions.

## 1.2 Referral

The authors recommend that NHS England should work with the National Institute for Health Research (NIHR) and research charities to determine how best to monitor and evaluate emerging point-of-care triage tests and decision support tools which could be used in primary care to stratify referrals for further investigation.

The Accelerate, Coordinate and Evaluate (ACE) Programme is an initiative between NHS England, Cancer Research UK and Macmillan Cancer Support. It was established to help improve England's cancer survival rates by providing evidence on how best to design diagnostic pathways. There are 60 projects underway as part of the programme. By mid-2017, Wave 1 of the ACE projects will have been completed and evaluated, generating lessons for commissioners and providers on how to improve earlier diagnosis. There are a number of additional areas to be tested alongside the existing concepts being explored through ACE.

A current area of weakness found by the consultation is that there is no optimal referral pathway for patients with non-specific, but persistent concerning symptoms. These patients often fall through gaps, resulting in delays to their diagnosis. Others may end up shuttling between primary and secondary care if the first or second test ordered is uninformative. One suggested model to address this is the Multidisciplinary Diagnostic Centre (MDC) concept – a single testing location where a patient can undergo several tests relevant to their symptoms on the same day. An MDC could be based in a community or a hospital setting and would supplement diagnostic pathways for 'red flag' symptoms that are more clearly indicative of a particular type of cancer.

The authors suggest NHS England should pilot the role of a cancer nurse specialist in large GP practices to coordinate diagnostic pathways and other aspects of cancer care. Other suggestions include the feasibility of patients self-referring for investigative tests, particularly in areas where GP access is poor. In order to do this without over-burdening the system with the 'worried well', an evaluation of a triage system (for example a nurse-led telephone conversation) would need to be put in place.

## 1.3 Diagnosis

The authors stated that there needs to be a better understanding why a disproportionate number of children present through emergency routes, so that initiatives can be tailored accordingly. Evidence from other countries is cited that suggest that more regular health checks during school can lead to more cancers being found early.

A key recommendation from the strategy is:

- NHS England should mandate that GPs have direct access to key investigative tests for suspected cancer by the end of 2015, for example, blood tests, chest x-ray, ultrasound, MRI, CT and endoscopy.

By the end of 2014, only 30% of CCGs commissioned direct access to all four diagnostic modalities, with 22% of CCGs commissioning none at all. Only around one in five GPs in England report having direct access to CT and MRI scans, while their counterparts in other countries report having at least twice this level, and in some cases close to 100%.

Diagnostic services are currently under significant pressure. Therefore, the ability to undertake a transformational shift in the level of investigative testing is limited. There are also capacity deficits in radiology and endoscopy. These deficits act as a "bottleneck" in the system, as well as resulting in tests taking longer to report.

The report cites a recent survey by the Royal College of Radiologists which estimated that 330,000 patients across England are waiting more than a month for x-ray results, and almost 8,000 for CT or MRI results. The authors note that tackling workforce shortages will take time, and therefore short to medium term measures are needed to support the NHS to deliver tests and results.

The Government committed £450m to improving early diagnosis in 2011, with one of the main objectives being to improve GP direct access to four key diagnostic tests for cancer. However, it appears that much of this funding was absorbed through other financial pressures and access did not improve sufficiently.

Diagnostic services are considered an "overhead" in some hospitals, with providers therefore having little incentive to increase capacity. The authors recommend that NHS England should establish a national diagnostic capacity implementation fund to unlock the significant increase in diagnostic capacity required to implement higher levels of investigative testing.

## 1.4 Monitoring

The authors note that a dashboard of metrics at CCG and provider level is currently being recommended for Cancer Alliances to review regularly. This would include:

- Proportion of patients referred by a GP with symptoms receiving a definitive cancer diagnosis or cancer excluded within two and four weeks, with a target of 50% at two weeks and 95% at four weeks by 2020.
- Proportion of diagnoses through emergency presentation.
- Proportion of cancers diagnosed at stage 1 or 2, with a target of 62% by 2020 for cancers staged, and an increase in the proportion of cancers staged.
- Screening uptake, with an ambition of 75% for Faecal Immunochemical Test (FIT) in the bowel screening programme by 2020.
- Proportion of patients meeting cancer waiting times targets: target of 96% meeting 31 day target and 85% meeting 62 day target.

The authors also recommend that all GPs should be required to undertake a Significant Event Analysis for any patient diagnosed with cancer as a result of an emergency admission.

## 1.5 Workforce and training

The sustainability of the NHS is critically dependent on having sufficient capacity and the optimal skills mix within its workforce. The growth in the number of cancer cases of 2% per year, coupled with the broader range of services required as more patients survive, is leading to rapid growth in demand. The authors note that there is currently a serious shortage of radiologists in England. The existing workforce has so far absorbed increases in demand, but as workforce growth has not kept pace, the consequence has been a drop in service quality. This is reflected in the increasing delays in delivering test results to patients. Further increased demand – not least because of the increased levels of investigative testing envisaged in this strategy – will exacerbate the problem. The UK has around 47 trained radiologists per million population, a figure which has increased only slowly over the past five years. In Germany the comparable figure is 81, in Sweden 108 and in Denmark 121. Approximately half of the workload in radiology services is cancer-related. More than a third of the radiologist workforce is aged 50 or over, and around a quarter will be approaching retirement age in the next five years. The authors recommend that:

- Health Education England, as part of its careers service responsibility, should develop a programme for international promotion of specialist recruitment opportunities in key areas where shortfalls currently exist and where future demand is expected to grow.
- Experts in NHS England should review, on an annual basis, the number of radiology, diagnostic radiographers and nurse endoscopy training positions required to meet projected needs, and act urgently to address these needs.
- NHS England should work with the Royal College of Radiologists (RCR) to understand better a predicted workforce deficit in breast radiology and develop a plan to address this.
- NHS England should work with DH and the Society and College of Radiographers to make sonography a separate registration.

- There should be measures taken to ensure that the quality of training is not compromised in the urgency to increase staff numbers.

According to the report, the RCR has estimated that England should be aiming at a minimum of 80 trained radiologists per million population over the next seven years. Some of this growth can be achieved by increasing training positions by 60 per year over the next five years, from the current 220-230 per year. Health Education England has already taken some steps towards increasing training numbers, and will need to do so again in the coming years.

The report suggests that The Royal College of General Practitioners (RCGP) consider whether GP training needs updating, to include an increased focus on investigative testing for cancer and dealing with and effectively managing uncertainty and risk.

# 2 Suspected cancer: recognition and referral. NICE Guideline [NG 12], June 2015[2]

## 2.1 Overview

This guidance includes new and updated recommendations on the recognition, management and referral of suspected cancer in children, young people and adults in primary care. The guideline aims to focus on those areas of clinical practice (i) that are known to be controversial or uncertain; (ii) where there is identifiable practice variation; (iii) where there is a lack of high quality evidence; or (iv) where NICE guidelines are likely to have most impact.

## 2.2 The recommendations

The guidance contains over a hundred recommendations about diagnosing cancer and is organised into three sections:

1. Recommendations organised by site of cancer
2. Recommendations on patient support, safety-netting and the diagnostic process
3. Recommendations organised by symptom and findings of primary care investigations

The key message from the guidance is that patients with specific symptoms indicating possible cancer at the tumour sites listed in the table below should be referred to the appropriate specialty via the two week wait and for some suspected cancers where symptoms are less clear, GPs should be able to directly access specific endoscopy and radiology services. Following receipt of direct access test result the GP makes the decision to:

- Refer via two week wait pathway
- Routine investigation for non-cancer condition in secondary care
- Primary care management of symptoms and non-cancer condition

For some cancers the guidance may include the recommendation to directly access endoscopy or radiology services. Direct access to a diagnostic procedure is

recommended for the 11 cancers in the table below. People identified at risk of cervical cancer following a cervical screen within the NHS Cervical Screening Programme can access colposcopy directly although it is not available directly for symptomatic patients who are referred into the Gynaecology Department.

**Table 1: Lists the suspected cancers where direct access to a particular test for patients is recommended**

| | | Direct access | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | **X-ray** | **Upper GI endoscopy** | **CT** | **Ultra-sound** | **Cysto scopy** | **CA125** | **PSA** | **Urine test** | **Colpo scopy** |
| Lung | X | | | | | | | | |
| Oesophageal | | X | | | | | | | |
| Pancreatic | | | X | | | | | | |
| Stomach | | X | | | | | | | |
| Colorectal | | | | | | | | | |
| Ovarian | | | | X | | X | | | |
| Endometrial | | | | X | | | | | |
| Cervix (screened) | | | | | | | | | X |
| Vulva | | | | | | | | | |
| Prostate | | | | | X | | X | | |
| Bladder | | | | | X | | | X | |
| Renal | | | | | X | | | X | |

It's important to understand the impact of widening the referral threshold and availability of direct access in terms of estimating the demand from urgent referrals and the development of sustainable services.

## 2.3 Costs

The guideline is accompanied by a costing template that allows CCGs to assess the financial impact of implementing the guideline for their local populations. The costing template allows CCGs to input local data relating to current and anticipated outpatient attendances, investigations, cancer diagnoses and percentage of cancer diagnoses identified by emergency admission. It then outputs the net resource impact based on given unit costs. The costing tool can only be used for lung, upper GI tract and lower GI tract cancer groups. The template anticipates that the guideline will significantly increase the number of diagnostic tests and referrals requested from primary care.

NICE judged that recommendations on the following tumour groups would have a significant resource impact:

- Lung and pleural cancers (increased referrals and costs)
- Upper gastrointestinal tract cancer (decreased referrals and costs)
- Lower gastrointestinal tract cancer.(increased referrals and costs)

NICE judged that recommendations on the following tumour groups would not have a significant resource impact:

- Breast cancer

- Skin cancer
- Urological cancers
- Head and neck cancer
- Gynaecological cancers

Appendix 1 of the Guideline explains NICE's reasons for judging certain recommendations not to have a significant resource impact and NICE suggests that CCGs may wish to identify further recommendations that may lead to costs or savings specifically within their locality.

NICE did not estimate the overall net cost of implementing this guidance. They encourage organisations to evaluate their own practices against the guidance and assess costs and savings locally. NICE do not estimate the timeframe within which the costs of their recommendations would be offset by any savings.

NICE anticipate that benefits will arise from:

- Early identification of cancer
- A reduction in cancer identified through emergency admission to hospital
- An optimised diagnostic process
- More appropriate referrals to secondary care for suspected cancer
- Extended survival for people with cancer
- Reduced mortality from cancer

## 2.4 SPH Commentary

Many of the recommendations in the guideline lower the threshold for referring patients with suspected cancer, which is likely to increase costs. However, implementing this guideline is also likely to lead to savings through earlier detection and treatment of cancer. The benefits of timely referral for suspected cancer must be balanced with the risks of unnecessary and potentially harmful investigation.

Whilst NICE clinical guidelines are not mandatory, commissioners should be able to show that they have taken their recommendations into account in making commissioning decisions. Where a commissioning body decides not to implement a recommendation, the NHS Constitution requires that it should be able to provide a clear rationale.

In the absence of key recommendations for implementation, and with great variability in practice across CCGs, it is difficult to predict with any certainty which of NICE's recommendations will have the greatest resource impact on individual CCGs.

For some cancers, such as colorectal cancer, which has identifiable stages that generally correlate with poorer quality of life, it can be assumed that delayed diagnosis will increase costs. For other cancers, such as prostate cancer, the relationship between early diagnosis and cost savings is not as clear. Increased diagnosis may increase the detection of clinically unimportant cancers that will not impact on a person's survival or quality of life.

It is not clear why the implementation of the guidance on upper gastro-intestinal will lead to a reduced number of referrals.

Whether or not increased direct GP access to urgent investigations will optimise the diagnostic process will depend on several factors, including the diagnostic accuracy of the investigation and what systems are in place to review, communicate and act on results. This guideline focuses on cancer, but other conditions may be identified through increased testing, which may or may not increase costs. Pathway reconfiguration may be needed so that patients are directed to appropriate and timely care following investigations initiated in primary care. This may require extra systems and staff. All of this may lead to added costs but may also lead to savings through improved patient care.

In those areas that do not have direct GP access to endoscopy or CT scans, the cost impact is likely to be greater than in the areas where such services already exist, due to added setup costs and a possible increase in referral rates due to easier access (although this may be counterbalanced by fewer specialist outpatient referrals).

## 3 HORIZON SCANNING: An evaluation of imaging capacity across the NHS in England. September 2015[3]

Cancer Research UK commissioned this research to understand the pressures facing imaging services in England and to identify solutions for addressing the issues. The challenges identified included:

- The likelihood that future demand for MRI and CT scans will grow at 9% per annum or more.
- Workforce shortfalls are a crucial limiting factor to meeting the rising demand as workforce growth has not kept with increased activity.
- Strategic planning and funding of replacement and additional equipment is not in place in most Trusts.
- Funding by activity is more helpful than block contracts when trying to keep up with rising demand for services.

The report sets out 14 recommendations which are a combination of national and local actions:

- The government should increase investment in diagnostic services as set out in 'Achieving World Class Cancer Outcomes'
- Commissioners should work with providers to develop clear funded plans that will deliver the capacity for the predicted increase in demand.
- Commissioners should fund by activity not block contract.
- Strategic planning around workforce should be undertaken by Health Education England (HEE) and NHS England to increase the number of places on the trainee programmes.
- HEE should implement short-term international recruitment effort for sonographers, radiographers and radiologists as the only measure that can credibly reduce vacancy rates.
- HEE and Society College of Radiographers should work together to focus on reducing attrition rates from radiography degree courses.

- HEE and Society College of Radiographers should develop and publicise a career framework for radiographers and sonographers.
- NHS England should cost out spend on overtime, locums and agency staff versus investment in full time NHS staff.
- NHS imaging providers with support from NHS England and Royal College of Radiologists should develop imaging networks to provide patients/staff with appropriate support.
- NHS England and Royal College of Radiologists should develop clear nationally evidence–based protocols for follow up and surveillance scanning for appropriate cancers.
- NHS England should implement a long term plan for replacing aging equipment on a rolling basis and identifying national funding for new MRI and CT machines.
- Services should be supported to ensure patients have access to reports of their imaging tests should they wish to do so.
- Acute providers should develop integrated systems that link the requesting acquisition and reporting of imaging tests to the patient pathway with clear information to the patient.

## 4 Scoping the future: An evaluation of endoscopy capacity across the NHS in England. September 2015[4]

Cancer Research UK commissioned this work to understand pressures facing endoscopy services as a result of rising demand and to identify solutions to address the challenges. The issues identified included:

- Rising demand.
- Workforce recruitment, retention, training and development.
- Lack of time to develop new ways to make the service more efficient.
- Data availability and quality for use in planning.

Recommendations to address these issues included:

- The government should increase investment as set out in ‘Achieving World Class Cancer Outcomes’ to ensure rising demand can be met.
- The bowel cancer pathway should be optimised so that any route into the pathway (screening or symptomatic) is as efficient as another, ensuring that a two tier system does not exist.
- Strategic workforce planning should be undertaken as outlined in ‘Achieving World Class Cancer Outcomes’ to ensure the required number of trainees, Consultant Gastroenterologists, Consultant GI surgeons and Senior Endoscopy Nurses are in place to meet rising demand of services.
- Commissioners should ensure training lists are protected so that staff are adequately trained.
- Unwarranted variation between units in Nurse Endoscopist pay should be eliminated.
- All staff involved in endoscopy services should be prepared by NHS England and the Department of Health (DH) for transition to 7 day working.

- NHS England should support services to achieve and maintain Joint Advisory Group (JAG) accreditation.
- Commissioners should consider innovative ways to meet rising demand such as supporting direct access and strengthening links between primary and secondary care. This would improve quality and appropriateness of referral.
- The Health and Social Care Information Centre should ensure Hospital Episode Statistics is an accurate record of all NHS commissioned endoscopies including coding for symptomatic, screening and surveillance.
- Public Health England (PHE) should ensure there is timely access to activity and outcomes of the NHS Bowel Cancer Screening Programme.
- Strategic planning by PHE and NHS England to ascertain how best to manage pressures from the introduction of Faecal Immunochemical Test (FIT) and the ongoing roll out of Bowel Scope into the screening pathway.

## 5 Improving Outcomes: A Strategy for Cancer fourth annual report DH, PHE, NHS England, December 2014[5]

This report shows the progress made against actions set out in the original strategy (Improving Outcomes; A Strategy for Cancer, IOSC, January 2011) and the authors' joint commitment to improving cancer outcomes in England. The areas of continued focus are especially:

- Tackling lifestyle factors such as smoking which are estimated to be responsible for over a third of cancers.
- Public awareness campaigns such as 'Be Clear on Cancer'.
- Achieving 62 day referral to treatment standard.
- Working to ensure there is sufficient diagnostic capacity to enable early diagnosis (particularly endoscopy).
- Tackling variations in access to treatment (where these exist).
- Improving services for cancer survivors.

## 6 Delivering Cancer Waiting Times – A Good Practice Guide; An accompanying guide to the NHS IMAS IST Elective Care Guide. March 2014[6]

The guide is designed for staff planning and delivering cancer services as a walk through of the essential elements of a pathway for suspected cancer from pre-referral advice and outpatients through diagnostics and admissions. It also covers the key areas which support operational delivery of a good pathway including demand and capacity planning, cancer access policies, performance management and reporting. Alongside examples of good practice the guide links to other documents and tools to support a sophisticated understanding of impacts on different parts of the pathway. The collection of advice and expertise comes from the NHS IMAS Elective Care Intensive Support Team (IST).

This document signposts staff to hands on tools and practices that have proved useful in smoothing the cancer pathway in Trusts and as such is a good starting point for services where there are challenges to achieving waiting time standards.

## References

1 *Achieving world-class cancer outcomes*: *A strategy for England 2015-2020*. Report of the Independent Cancer Taskforce, August 2015

2 *Suspected cancer: recognition and referral NICE guideline.* National Institute for Health Clinical Excellence, June 2015

3 *Horizon scanning: An evaluation of imaging capacity across the NHS in England. 2020 Delivery,* Cancer Research UK, September 2015

4 *Scoping the future: An evaluation of endoscopy capacity across the NHS in England.* Health Services Management Centre of the University of Birmingham and Lancashire Commissioning Support Unit Cancer Research UK, September 2015

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1 Wootton Edge Barns, Holly Bank,
Wootton-by-Woodstock, OX20 1AE

T +44 (0)3300 555 180
E solutions@sph.nhs.uk

www.sph.nhs.uk

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