

London cancer services: Proposed model of care

Summary



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Foreword from the project board

In some way, cancer will likely touch the lives of every person in London. With around 13,600 deaths from cancer in the capital each year and the number of new cases expected to rise, London needs world-class cancer services to meet this major challenge.

The case for change provides a compelling set of arguments for the need to improve cancer services in London. London's cancer community has developed a proposed model of care that recommends robust, clinically-led solutions to enable improvements to be made in the capital's cancer services. If adopted by London's commissioners, its recommendations would help earlier diagnoses to be made, improve inpatient care, and reduce inequalities in access to and uptake of services, all with the ultimate aims of improving patient experiences and outcomes.

The proposed model of care recommends that high quality care should be delivered by provider networks to allow the sharing of best practice and drive improvements in cancer services. It recommends that commissioners should commission services from provider networks and not necessarily from individual organisations, ensuring that pathways and best practice are standardised.

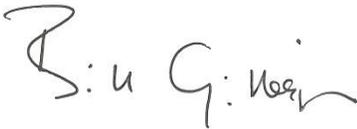
Professor Sir Mike Richards CBE, National Cancer Director has said:

"I commend all those who have been involved in the London cancer services review. The model of care sets out a forward looking approach to the early diagnosis, treatment and aftercare of Londoners with cancer. Collaborative working should be encouraged through the proposed new arrangements for provider networks. Implementation of this model of care would enable

London to acquire the world class services it deserves.”

Ensuring the future availability of world-class cancer services for all Londoners is at the heart of model of care. If it were adopted by commissioners then its implementation will most certainly contribute to improving survival rates to meet the best in Europe and could translate into saving 1,000 Londoners’ lives per year. Achieving earlier diagnosis has the greatest potential for improving outcomes and survival for cancer patients in London and so is deserving of particular attention.

We would like to thank the many individuals and organisations that helped us develop the case for change and proposed model of care for London’s cancer services through our work with primary and secondary care professionals, service users, and independent and third sector partners.

A handwritten signature in black ink, appearing to read "Simon G. Hoey". The signature is fluid and cursive, with the first name "Simon" and last name "Hoey" clearly distinguishable.

Chief Executive, Sutton and Merton Primary Care Trust and
Senior Responsible Officer

A handwritten signature in black ink, appearing to read "John". The signature is cursive and stylized, with a prominent loop at the end.

Professor of Cancer Medicine at Queen Mary, University of
London and Clinical Lead

Foreword from the patient panel

The patient panel was formed of patients, carers, relatives and researchers. Its two co-chairs were members of the project board, representing patients' and carers' views and championing their interests. The panel worked to ensure that the overarching issues and principles that dominated their discussions informed the cancer project board when producing the case for change and model of care documents.

Londoners expect the best quality of care. Despite areas of excellence in cancer care across London, the capital still has poorer survival outcomes than most European countries. The cancer case for change and model of care documents have shown that London scores poorly in clinical outcomes and survivorship data compared to other areas of Britain and countries in Europe.

Londoners expect an increased emphasis on public awareness about cancer symptoms and problems associated with delays in early diagnosis. Social marketing and further research should be used to analyse the best methods for engaging patients early in the diagnostic pathway or in screening programmes to improve outcomes.

To help achieve better outcomes, we acknowledge that it will be necessary to consolidate some cancer care in fewer specialist centres. This will increase travelling times for some patients, but it will improve patient care and cancer treatment outcomes. We understand that the ultimate goal is to deliver high quality of care and quality of life.

While we think that the people of London will acknowledge the need to travel further for the best specialist care, they will expect to have transport needs considered. Certain treatments make patients unwell and immunologically compromised and attempts

to alleviate problems encountered due to public transport would be invaluable.

Londoners expect to have a joined up pathway of care throughout their treatment, with care to be delivered closer to their home, where appropriate. Patients should be transferred back for ongoing or follow-up care in local providers or the community as soon as is practicable following care at the specialist centres.

Patients should be informed of all treatment options and outcomes at every stage of their journey to ensure that they are involved in shared and informed decision making.

The people of London expect a holistic approach to their care and for their carers to be acknowledged as partners in their care and to be appropriately supported with communication, information and professional help as needed.

Londoners also expect to have a designated keyworker throughout their journey. Keyworkers, often clinical nurse specialists, are crucial to achieving seamless care for patients, both in the acute setting and importantly when they return home. They prevent feelings of abandonment and act as a contact for advice and reassurance.

The members of the panel consider the invitation to contribute this foreword as an indication of the close working partnership that we have had with the cancer project board and the clinical expert groups. We thank the expert reference groups and the cancer project board members for the opportunity to engage and inform from a patient and public perspective.

We are pleased that a number of our suggestions have led to significant changes in the documents and hope that such input will have a positive impact on the patient experience. We look

forward to improvements in cancer treatment and survival for all in London.

Natalie Teich and Virginia Gorna
Co-chairs of the cancer patient panel

1. London cancer services: a proposed model of care

London's cancer community has come together to propose changes to cancer services in the capital. This document makes both a compelling argument for service change, and sets out an ambitious way forward for cancer services that will deliver better outcomes and a better experience for patients.

Documents

A thorough case for change for cancer services in the capital has been developed as well as a proposed model of care if the case for change was accepted.

The proposed model of care was developed by London's cancer clinicians and is a clinical document. Its recommendations are based on the available literature and evidence from academic sources as well as pilots and innovative initiatives. Where evidence was not available, recommendations are based on the consensus of the nationally and internationally renowned clinicians that London is fortunate to have.

Expert reference groups

Applications for involvement in the process were sought from London's cancer community and 130 were received. Three expert reference groups were formed, one for each of the three workstreams involved: early diagnosis, common cancers and general care, and rarer cancers and specialist care.

Each group consisted of 15-18 individuals from a range of professions and joint chairs were chosen from among its members. The groups met at monthly intervals and were engaged with frequently in between times, both individually and as a group, to provide further evidence and clinical input to the development of the documents.

Expert reference panel

An overarching panel was formed from the six co-chairs of the expert reference groups along with the clinical lead and other senior figures from London's cancer community. This group met monthly following the expert reference group meetings to review progress and ensure that the work of the three groups was closely aligned. Clinical experts from outside of the Greater London area were also asked to comment on the case for change and proposed model of care at intervals throughout the process.

Cancer patient panel

The patient panel included patient representatives from London's five cancer networks and other groups. The patient panel also met on a monthly basis and provided invaluable feedback on, and input into, the two documents. The two co-chairs of the patient panel also sat on the cancer project board.

Project board

The project board was chaired by the senior responsible office and its membership consisted of the clinical lead, the six co-chairs of the expert reference groups, the two patient panel co-chairs, public health and strategic representatives from NHS London, and Commissioning Support for London's executive sponsor.

Engagement

An engagement event was held in November 2009 to share and seek feedback on the draft case for change and emerging model of care. The event was attended by over 120 people, including patients and a range of clinicians and third sector organisations. The feedback from the event was fed into the project documents.

Telephone interviews were held with senior representatives of four leading cancer centres in the USA. The purpose was to gain

insights into their cancer care models, to compare them with the proposals made in this document and to consider whether anything more could be helpfully proposed for London.

2. The nature of the challenge

London's cancer services should meet the highest standards of care. Clinical management in the capital is usually provided by nationally and internationally recognised experts. However, the lack of a planned system for coordinating the delivery of services means that London cannot consistently achieve the excellence achieved in other comparable cities.

London has particular challenges and characteristics in terms of population demographics and cancer services provision.

Patient experience

Londoners have historically reported a poorer experience of cancer care when compared with other regions of England. Differences have particularly related to community and hospital services, and the interface between them.

Inequalities in access and outcomes

There is significant variation in the incidence, survival and mortality rates for cancer patients across London. The risk of being diagnosed with certain cancers is greater among the most deprived families and communities. For the majority of cancers, the most deprived patients have worse survival rates¹. London has a high level of deprivation with 20% of wards being some of the most deprived in the country².

Capacity

London's cancer services provide a significant amount of cancer care, particularly for rarer cancers, to patients living outside London in Kent, Surrey and Sussex, parts of Essex and Hertfordshire, and further afield.

The incidence of cancer nationally is predicted to increase by 33% by 2022, while in London it is only expected to rise by five per cent³.

However, these patients coming from outside London to receive treatment in the capital come from a growing population and will further increase the demand on London's services.

Workforce

High turnover, high vacancy rates, and lower labour productivity are some of London's unique workforce challenges. London doctors and nurses see relatively fewer patients than those working elsewhere in England.

Fragmentation of services

The spread of London's cancer services is the result of historical development at various hospital sites. This has taken place without a framework to consider how services could fit into an overarching system that can best serve the entire London population.

The provision of specialist services

Insufficient planning across London means services do not make the most efficient use of a limited and highly skilled workforce. As a result, Londoners have not fully benefited from advances in medical care as specialist staff, facilities and patients are spread across too many sites.

Research

The numerous high quality research active providers in London present the opportunity to support local involvement in cancer biomedical research, and increase participation in clinical trials for patients who might otherwise not have ready access to them.

3. Guiding principles of the proposed model of care

Over the last decade, considerable improvements in cancer care have been achieved in London but more needs to be done. A new model of care is needed for London's cancer services in order to improve patient experiences and treatment outcomes.

This model of care is presented to commissioners by London's cancer community as a proposal for how services should be delivered in the future. It will be for commissioners to determine how and from whom they wish to commission services on behalf of their patients.

The proposed model of care is underpinned by ten guiding principles:

1. Services should provide informed choice, quality outcomes and a high quality experience for cancer patients
2. Patients should be at the centre of services, which will be based on patient pathways and will be commissioned to meet their needs
3. Services should aim to exceed national, regional, and local care and quality standards, such as the NICE improving outcomes guidance, and national policies including the Cancer Reform Strategy⁴
4. Health services should be delivered locally where this is clinically appropriate and delivers value for money
5. Healthcare should be delivered close to home and in ambulatory care settings where possible, avoiding or reducing the need for patients to attend or be admitted to hospital
6. Services should be centralised where clinically appropriate
7. Tertiary, secondary, and primary care services should work closely together, with partners such as local authorities, to provide more cohesive and better care for cancer patients
8. Services should deliver improved outcomes for cancer patients while being productive and providing value for money for taxpayers

9. Services should meet the needs of the populations they serve and be innovative and continually evolving
10. Cancer research, both basic and clinical, should be strongly supported and fostered.

4. Networks

Cancer networks in their current form were set up following the publication of the NHS Cancer Plan in 2000⁵. There are currently five London cancer networks.

The strengths of the cancer networks should be consolidated and embedded within commissioning structures. Their weaknesses must be addressed to tackle the issues identified in the case for change.

The case for change

While significant progress has been made since 2000, considerable variation still exists in cancer services across London. Despite the efforts of the existing cancer networks, the constraints of the system in which they operate have prevented them from eliminating this variation.

The role of networks should be redefined to address three critical issues:

- The need to clarify the commissioning role of networks
- The ability of both commissioners and providers to respond to the agenda for cancer services
- The need to work in a way that is more collaborative from an NHS perspective and more coherent from a patient perspective.

To address these issues, London's cancer services should move to a model of clearly delineated commissioning arrangements and provider networks.

Commissioning networks

The role of the existing cancer network management teams should be redefined as 'cancer commissioning networks' and focus solely on supporting the commissioning of high quality services. By refocusing their role to provide support to

commission cancer services of the highest quality, the expertise of the network management teams will not be lost.

To address the problems of fragmentation highlighted in the case for change, cancer commissioning should be on the basis of patient pathways rather than individual organisations. The London Specialised Commissioning Group should continue to drive the commissioning of the rarer cancer services that need to be planned and organised across the whole population.

Provider networks

Provider networks would be groups of providers commissioned collectively to provide a comprehensive cancer service. They should:

- Be clinically led, with a governance board that will comprise representatives from each provider and a commissioning lead
- Have responsibility for delivering the specified care pathways for different tumour sites developed by clinicians and cancer commissioning teams
- Be integrated to include providers at each step of the pathway, including the community
- Function as an integrated, actively managed, single entity, taking responsibility for governance of all cancer patients within the network
- Make clinicians available to advise commissioners at all levels
- Link with high quality cancer research institutions to ensure that research is embedded with patient care.

The proposed model of care does not state the optimum future number of provider networks for the capital. Their configuration should be determined as the model of care's recommendations are implemented, particularly those regarding the consolidation of specialist surgery.

The final number of provider networks will be influenced by a number of factors, including population coverage, cancer activity, and the chance to link with existing collaborative arrangements

such as the three new Health Innovation and Education Clusters. It is expected that this will result in fewer networks than at present.

5. Early diagnosis

The earlier a cancer is diagnosed and treated, the greater a patient's chance of survival and improved quality of life. Evidence suggests that later diagnosis has been a major factor in causing the relative poorer survival rates in England compared with other European countries⁶.

Achieving earlier diagnosis has the greatest potential for improving outcomes and survival for cancer patients in London. Improving survival rates in England⁷ to the best in Europe could save an estimated 1,000 lives per year in London.

Population awareness and understanding

Public awareness of the early signs and symptoms of cancer is poor in England. Findings suggest differences between population groups in both the level of awareness of cancer signs and symptoms, and in the public's perceived barriers to care⁸.

Late presentation is a contributing factor to a more advanced stage of cancer at the time of diagnosis. Figure 1 shows evidence that patients frequently have symptoms for a considerable period of time before seeking help.

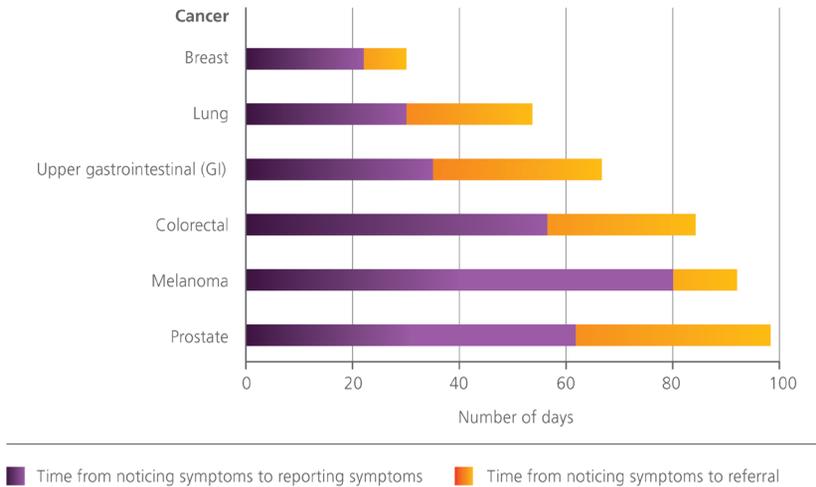
Commissioners should:

- Ensure that the initiatives of the National Awareness and Early Diagnosis Initiative (NAEDI) are implemented
- Use the Cancer Awareness Measure to assess cancer awareness levels in their local population
- Have clear strategies for improving awareness levels amongst the public and increasing early presentation.

GPs should participate in the primary care national audit of newly-diagnosed cancers to gain an understanding of any pre-diagnostic delays that take place. GPs with an interest in cancer should lead efforts to increase awareness and understanding and

therefore early diagnosis.

Figure 1: Time from patients noticing and reporting symptoms to GPs and time from patients reporting symptoms to GP referral to secondary care.



Source: Scottish Government, *Better Cancer Care, An Action Plan*, 2008.

Referrals and accessibility of diagnostics

Cancer can be difficult to diagnose in its early stages, particularly as GPs see fewer than ten new cancer cases per year on average⁹. This can potentially lead to delays in GP investigations or referrals to a specialist.

Prompt access to appropriate diagnostics and referral to specialists is fundamental to ensure an early diagnosis of cancer.

The majority of newly diagnosed cancer patients do not come through the two-week referral route. Clear protocols are needed for acting on the receipt of abnormal results for patients who have a low suspicion of cancer.

Inappropriate urgent referrals can lead to cancer services being overloaded, causing delays for patients referred non-urgently who turn out to have cancer.

Allowing GPs rapid access to diagnostics to exclude or confirm a diagnosis of cancer will allow patients to be appropriately and accurately referred to specialist care earlier. Patients should not have long waits for these tests or their results.

The accuracy of referrals to secondary care should be improved and clear protocols for acting on the receipt of abnormal results in secondary care should be established. Specialist cancer diagnostic teams should be strengthened to expedite an accurate diagnosis.

Screening programmes

London has a lower uptake rate of NHS screening programmes than the rest of the country and national minimum targets are largely not met.

Figure 2 illustrates the lack of progress in increasing breast screening uptake in London over recent years. The national minimum target for breast screening uptake is 70%.

Figure 2: Breast screening uptake rates¹⁰

	2005/06	2006/07	2007/08
Number invited	271,922	285,808	279,515
Number screened	181,494	184,395	181,606
Uptake rate	61.79%	60.31%	60.54%

The evidence shows that there are a range of factors that contribute to a low uptake of screening in London:

- Lower uptake rates in areas with high levels of deprivation
- A lack of understanding by some people of the benefits of screening

- A significant number of people in hard-to-reach groups are less likely to accept their screening invites
- The transient nature of certain populations has resulted in inflated, conflicting and out-of-date patient lists
- Problems with GP catchment areas result in patients being called to screening services in the wrong borough
- There is no standard IT system to support call and recall centres.

The public should be made more aware of the benefits of cancer screening programmes. Programmes should be expanded and more widely promoted to increase rates of early diagnosis. New technology should also be introduced where appropriate to enhance screening.

Health inequalities

Factors such as age, gender, ethnicity, sexual orientation, learning disabilities and mental health problems can result in inequalities in access to, and outcomes of, cancer care.

The routine collection of patient data by ethnicity, age, gender and disability would enable commissioners to understand the uptake of cancer services. The health inequalities identified can then be addressed locally.

Questions to consider

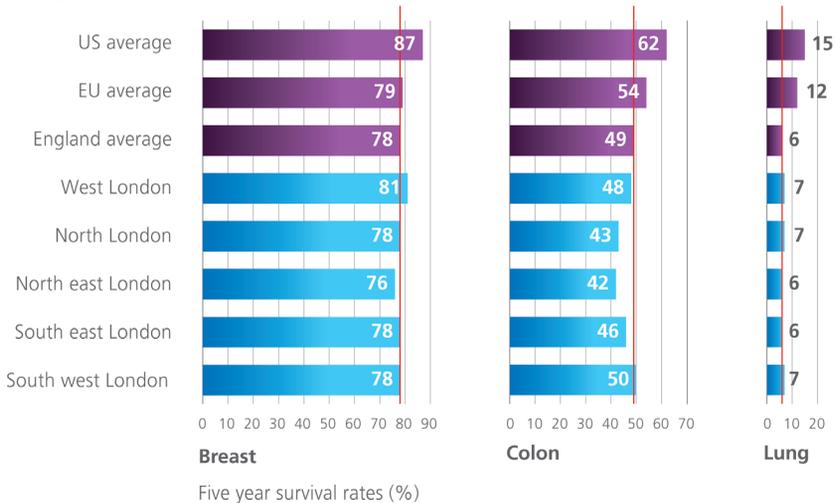
1. Do you agree with the case for change and proposed model of care for early diagnosis?
2. Do you agree that achieving earlier diagnosis has the greatest potential for improving outcomes and survival?
3. Do you have any comments on the proposals?
4. How should the proposed changes be brought about?

6. Common cancers and general care

Survival rates for common cancers in London compare unfavourably with those internationally. There is variation in the quality of care that Londoners receive for common cancers and variation in the quality of the general care that all cancer sufferers receive. This variation is in the treatment that patients receive as well as the length of time that they can expect to spend in hospital. Reducing this variation will improve both outcomes and patient experience.

Relative survival rates for three common cancers, breast, colon and lung, are shown in Figure 3.

Figure 3: London - relative survival rates for three common cancers



Source: National Statistics for Cancers diagnosed 1997-1999 and Eurocare for cancers diagnosed 1996-1999, followed up to 31 December 2004.

Clinical evidence suggests that common cancer care such as chemotherapy and patient follow-up should be provided outside of hospital settings where possible. The evidence also makes the case for improving outcomes by providing complex investigations and treatments in only a few specialist centres. All non-hospital

based services should be integrated with other services in the provider network. This would ensure that services are high quality and as safe as possible.

Common cancer surgery

Number of services

For some common cancers, a large number of London hospitals carry out surgery and the number of procedures that are carried out each year varies widely between hospitals.

An accreditation scheme should be developed that takes into account patient outcomes, the number of procedures carried out annually and other important factors that contribute to the quality of patient care. Only accredited hospitals should be commissioned to provide services.

The proposed model of care does not state an ideal number of services to provide breast and colorectal cancer. The number of providers in the capital will be determined by commissioning and patient choice, informed by cancer quality accounts and the accreditation process.

To ensure that London hospitals see sufficient number of bladder and prostate cancer patients, the number of hospitals commissioned to provide this service should be reduced from the current level of more than ten providers to five. These hospitals should seek to carry out a minimum cumulative total of 100 complex operations a year.

Evidence suggests that the best lung cancer outcomes are achieved in centres performing more than 60 procedures per year¹¹. To ensure that London hospitals see sufficient patients to make this possible, the number of hospitals commissioned to provide this service should be reduced from seven to five.

Best practice

Breast cancer surgery can often be delivered as a day case, with surgeons using less invasive techniques so that patients do not have to stay in hospital unnecessarily. Guidelines suggest that 63% of breast surgery should be as a day case. The case for change showed that the proportion of breast procedures carried out in this way in London hospitals varied from under 20% to over 90%.

To improve outcomes and experience, day case breast services should be available locally to all patients who require less complex surgery. Patients undergoing more complex surgery should have the opportunity to discuss their breast reconstruction options and have immediate breast reconstruction if appropriate.

The increased use of laparoscopic surgery in treating colorectal cancers has been approved by NICE but is not widely available in London hospitals, with rates ranging from under 5% to almost 50% of total colon procedures. All colorectal teams should therefore include at least one fully trained laparoscopic surgeon and non-complex colorectal cancer surgery should be available to patients locally.

Haematological and skin cancers

Some London services for patients with high-risk skin cancer, such as malignant melanoma, do not meet NICE guidelines¹². They should be consolidated to achieve this.

In addition, some GPs undertake the diagnosis and management of low-risk skin cancers when they are not trained to do so.

Providers of care for haematological cancers in London should adopt the recommendations made by the British Society for Haematology, which includes defining the facilities and resources required to deliver haematological care of different levels¹³.

Systemic anti-cancer therapy (SACT)

SACT (which includes chemotherapy) is provided predominantly in acute hospitals in London. This means that patients frequently have to travel for treatment, sometimes with considerable travel times and often when feeling unwell.

Guidelines recommend that to provide patient-centred care, inpatient delivery of SACT should be minimised¹⁴. To do this, satellite services should be set up and linked to a central unit in the provider network to provide more convenient treatment to patients, as long as it is safe and clinically appropriate to do so.

Radiotherapy

London providers have enough radiotherapy capacity if it is used efficiently. Inequalities of access exist, however, with wide variations in the distances that patients are required to travel for care.

There are also variations in the radiotherapy regimen given to patients across the capital and a lower proportion of patients overall receive radiotherapy compared with national recommendations¹⁵.

Furthermore, the London Assembly has reported that waiting times in a third of London's radiotherapy providers exceed national waiting time targets¹⁶.

These issues could be addressed by commissioning radiotherapy services on a pan-London basis. This would ensure that patient flows are managed more efficiently across London and that high safety and quality standards are in place. In this way, treatments, regimens and maximum waiting times could be standardised according to the best clinical evidence.

Multidisciplinary teams

A multidisciplinary team is made up of specialist practitioners who advise on the best care pathway for patients. Reports reveal that a significant number of London multidisciplinary teams are not compliant with NICE guidance on the requirements of these teams¹⁷. Provider networks should standardise multidisciplinary teams across providers to ensure that they work efficiently and effectively and that clinical time is used appropriately.

Provider networks should also ensure that patient access to a keyworker is always available through the multidisciplinary team. Patient and carer involvement has shown that this role is of vital importance for the quality of the overall patient experience.

Bed days

There is scope for radical improvement in the use of London's cancer beds. Reducing long lengths of stay will improve patient experience and have financial benefits. If all London hospitals had achieved the national average for lengths of stay in 2004/05 for all cancer patients, this would have saved 800,000 bed days or £200m¹⁸.

The amount of time that patients spend in London hospitals after elective cancer surgery varies widely. This variation is caused by a number of factors, including the availability and quality of home and community support, the surgical techniques used, and the individual practice of clinicians.

Programmes to ensure that patients spend no longer than they need in hospital should be used across all elective cancer surgery. Less-invasive surgical techniques should be used where clinically appropriate to improve patient experience and the speed of recovery.

National guidance recommends that hospitals with emergency departments should establish teams to assess cancer patients

presenting as an emergency the moment that they arrive at hospital¹⁹. Currently not all London emergency departments have such teams. The development of these acute oncology services will prevent unnecessary hospital admissions, improving both patient outcomes and experience.

Follow-up and support

The follow-up of most cancer patients is done on a routine basis in hospital outpatient departments.

Patients can become ill again between appointments and not feel able to see a specialist until their next scheduled appointment. Londoners should be offered individualised aftercare services based on the emerging survivorship model²⁰. This method of follow-up will improve outcomes and quality of life for patients and could free up specialists' time to continue to improve quality of care for all patients across the capital.

Patients should be given relevant information to make an informed choice on their preferred method of follow-up.

Supportive and palliative care

NICE guidance on supportive and palliative care²¹ has not yet been fully implemented in London. As a result, Londoners do not have timely access to treatments that ease their symptoms.

NICE guidance on supportive and palliative care²² should be met across all of London. Commissioners should ensure that:

- Holistic assessments are part of the patient pathway, including an assessment of psychological needs and the support requirements of carers
- Patients are consulted on the development of a rehabilitation care plan prior to treatment
- Palliative care and rehabilitation specialists form part of all multidisciplinary teams
- Complex palliative interventions are performed at specialist centres.

Questions to consider

1. Do you agree with the case for change and proposed model of care for common cancers and general care?
2. Do you agree that some elements of cancer care should be available locally to patients?
3. Do you have any comments on the proposals?
4. How should the proposed changes be brought about?

7. Rarer cancers and specialist care

For some rarer cancers, several London hospitals are providing services for the relatively small number of cases seen in the capital each year. Consolidating services into fewer hospitals would create and maintain complete clinical environments that can enable the delivery of best practice.

Improving quality and outcomes

The clinical evidence shows a positive relationship between the volume of patients that cancer services see and the outcomes that they achieve.

Higher patient volumes also improve the research environment, particularly for rarer cancers. There is evidence that cancer patients who participate in clinical trials can have better outcomes. Generally all patients treated in an environment that undertakes clinical research do better, whether or not they are part of a clinical trial.

Most NICE guidance for rarer cancers sets out minimum populations that services should serve or minimum numbers of surgical procedures that should be carried out each year. The guidance also argues that each surgical team should see a minimum number of patients each year to preserve its clinical skills.

In striving to meet this guidance, some concentration of services has occurred in London. The case for confining services to a small number of specialist centres is no longer based only on the volume and outcome relationship. Specialist centres are now seen as vital for the maintenance of a clinical environment that supports the delivery of best practice developments and fully exploits future advances in knowledge and treatments.

In order to achieve world-class services, London services should

serve optimal populations rather than just minimum populations.

Non-surgical treatment for rarer cancers

Just as the evidence suggests that surgeons should perform a minimum number of procedures a year, minimum caseloads should be set for non-surgical specialists for each rarer tumour type to ensure that their expertise is maintained.

For rarer cancers, specialist teams should be responsible for assessing patient needs and recommending care plans. Provider networks should ensure that the different aspects of these care plans can be delivered close to the patient's home where possible.

Upper gastrointestinal cancers

There has been a decline in the number of people requiring upper gastrointestinal procedures in London due to improvements in diagnostic imaging.

Not all hospitals in London are performing the number of pancreatic cancer procedures that the NICE guidelines recommend²³.

Recommendations on minimum surgeon volumes for major oesophago-gastric and hepato-pancreato-biliary (HPB) procedures have been published²⁴.

As well as meeting minimum surgical volumes, it is essential that all patients with upper gastrointestinal cancer are cared for by highly sophisticated clinical teams beyond surgery alone, who are working in excellent facilities, possess multi-modality cancer expertise, make a strong contribution to national and international research, and offer access to clinical trials for patients.

Primary liver cancer is rare and most liver procedures occur due to the spread of cancer from other sites. The National Liver Plan

recommends that patients with primary liver cancer are managed in centres that offer all treatment options or have appropriate relationships to ensure that there is good local provision²⁵.

To create the best clinical environment for upper gastrointestinal cancer patients, London should commission:

- Four oesophago-gastric surgery providers
- Three integrated pancreas and liver (HPB) providers

While transplantation is only an option in a small minority of liver cancer patients, those who may be suitable for a transplant should be referred to a transplant unit as early as possible to be assessed.

Rarer urological cancers

London has the right number of hospitals providing services for testicular and penile cancer and these services meet the NICE requirements²⁶.

Some services are dependent on too small a number of surgeons. To ensure the best patient outcomes and experience, rarer urological services should have all of the requirements of a high quality service, such as 24-hour access to interventional radiology, appropriate consultant cover, and resident surgical juniors.

Provider networks should ensure that hospitals with general urology services are able to refer patients with complex needs to specialist urology teams promptly.

Head and neck cancers

NICE guidance stipulates that head and neck services should serve populations exceeding one million. All surgery should be provided by a specialist team in a designated centre, and surgeons and their teams should manage a minimum of 100 new cases a year²⁷.

While services in London have made progress towards these requirements, they have not been met by all hospitals providing a head and neck service.

In order to improve outcomes, and because of the number of different specialties involved in caring for head and neck cancer, the number of hospitals commissioned to provide services in London should reduce from eight to five. These five surgery providers should deal with both upper aero-digestive tract (UAT) and thyroid cancers.

Base of skull and pituitary tumours are rarer than other head and neck cancers. To ensure that teams see the right number of patients to maintain their skills and expertise these services should be provided in two hospitals, both of which should be in the same hospital as a head and neck service.

NICE guidance²⁸ also states that local community based rehabilitation teams must be provided for head and neck patients. In London, these are in various stages of development and their creation should be expedited to ensure that patients receive the rehabilitation that they require.

Brain and central nervous system (CNS) cancers

Although London's brain and CNS services meet the current NICE requirements, services elsewhere in the country support significantly larger populations. In addition, revised national guidance is expected to increase the recommended populations that should be served.

The number of brain and CNS cancer surgical service providers commissioned should therefore be reduced from seven to four. These should be in a major hospital with acute services including neurosurgery, and neuro-oncology services should also be located on these sites. Two of these hospitals should have specialist spinal cord teams and these should also be collocated

with the two centres that are recommended to provide base of skull and pituitary tumours.

Supportive care and rehabilitation for brain and CNS cancer services are of key importance and are not available across London. Rapid access to appropriate neuro-rehabilitation closer to home should be offered to support patients and aid their recovery.

Gynaecological cancers

While progress has been made in implementing NICE guidance²⁹, fewer services in London managing higher volumes of patients would allow more effective use of specialist resources. The number of specialist gynaecological surgical services commissioned should therefore be consolidated from six hospitals to five.

There is variation in the average length of stay following gynaecological procedures at hospitals in London and Londoners with gynaecological cancer are not always offered access to supportive care and reproductive medicine consultations. A minimally invasive approach and programmes to reduce unnecessary time in hospital should be offered to patients. Patients should also be offered access to supportive care services, which should address quality of life issues, including preservation of fertility.

Sarcoma

The two sarcoma centres in London see the number of patients a year that is required in the NICE guidance³⁰ and therefore no change to the number of hospitals is recommended.

The communication between sarcoma services and other teams treating the parts of the body where sarcomas may occur is not always good. This means that patients may not be referred to a sarcoma centre where they would be managed

most appropriately. Protocols should be developed by provider networks to ensure effective links between sarcoma services and these other teams.

Haematopoietic progenitor cell transplantation

Haematopoietic progenitor cell transplantation (a type of bone marrow transplant) is currently delivered by eight providers in London. Some of these hospitals are not seeing sufficient patient numbers and therefore services should be consolidated to five providers, each undertaking a minimum of 100 new cases per year.

Specialist care

To treat the most complex cancer cases, clinicians require a range of diagnostic and treatment equipment to be available in one place. This means locating sophisticated equipment in centres employing experienced staff with all of the relevant expertise. These centres must be set up to see enough patients to justify the technology's cost.

In addition, a centralised commissioning and planning structure should be established in London for specialist radiotherapy, with technologies concentrated in specialist centres where appropriate.

Questions to consider

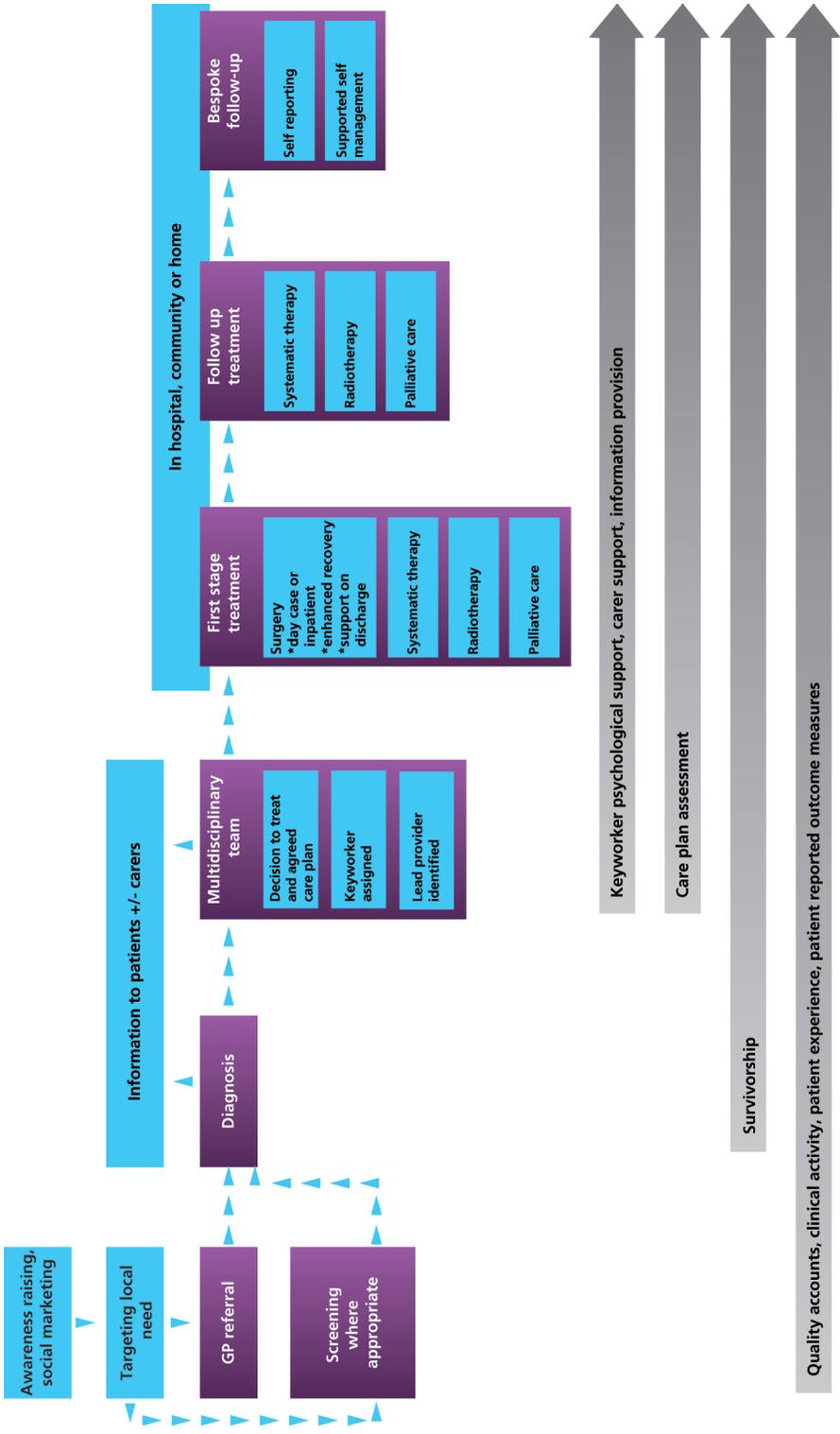
1. Do you agree with the case for change and proposed model of care for rarer cancers and specialist care?
2. Do you agree that consolidating very specialist, low volume cancer services into fewer hospitals would help achieve high quality patient care and improved outcomes?
3. Do you have any comments on the proposals?
4. How should the proposed changes be brought about?

8. Patient experience

The cancer patient panel proved invaluable in ensuring that the patient experience was kept central to the development of the proposals. The patient panel developed a generic patient pathway diagram to summarise some of the key recommendations of the proposed model of care in an accessible way.

The care pathway diagram in Figure 4 sets out the various parts of the pathway. It outlines some of the key factors that influence patient experience that the patient panel discussed: the centrality of the keyworker and carer support, the survivorship agenda, and care plan assessment. The patient panel felt it was important that patients could exercise choice at each step of the pathway.

Figure 4: Cancer patient panel pathway diagram



9. Enablers

If it were adopted by commissioners, this proposed model of care would require significant changes in the way that cancer services in London are commissioned and delivered. Implementing it would require the harnessing of a number of enablers for change.

Strong commissioning will be at the core of cancer services in London. Commissioners will commission on the basis of high quality patient pathways. Cancer commissioning will be informed by clinical, patient and carer engagement.

This model would require significant change in commissioning structures and organisational cultures. New contracting arrangements would need to be made to reflect these changes.

Incentives should be in place to foster appropriate collaborative behaviours and shared working. Providers should be encouraged to offer the highest quality care by linking increases in payment to specific quality goals.

The collection and publication of high quality performance information is integral to the success of this proposed model of care. London's provider networks should publish consolidated cancer quality accounts including a wide range of patient satisfaction measures.

London's NHS should use an accreditation process and publication of cancer quality accounts to help implement the recommendations in this proposed model of care, drive up quality, and inform commissioners, patients and the public.

The implementation of this proposed model of care must have the same level of clinical leadership that its development has had.

Provider networks should consider using formal partnership models to support the sharing of learning and standardisation of services.

While some aspects of this proposed model of care are based on collaboration, patient choice and contestability should be retained to drive up quality.

Research should be fully integrated with clinical care to provide the highest quality cancer care possible for Londoners. One of the key roles of the provider networks will be to disseminate best practice where there is innovation in service provision.

Improved information technology will be crucial in ensuring that patients experience seamless services, while being seen in the most appropriate settings within the network.

Commissioners should ensure services are in place to give all patients, families and carers the appropriate support at all stages of the care pathway.

Delivering care in the future in the most appropriate settings will require a programme of disinvestment in current models of care and reinvestment in new ones, together with changes in workforce.

Current providers will need to work together, and across commissioning boundaries, to achieve the optimal and affordable use of estates and facilities.

Implementation should be informed by international best practice. Initial input from four leading centres in the USA shows that they are very much in broad agreement with the proposals made in the proposed model of care.

Questions to consider

- Do you agree that these are the key enablers of the proposed model of care?
- Do you have any comments on the enablers?

10. Cancer co-dependencies

To support the implementation of the recommendations in the proposed model of care, a framework of the co-dependencies between certain cancer services was developed by the clinical expert reference groups.

Consolidating specialist surgery

The proposed model of care recommends some further consolidation of surgical services for both common and rarer cancers. This would ensure that clinical environments are in place to provide high quality care and improved outcomes for Londoners. These recommendations are summarised in Figure 5.

Figure 5: Number of sites recommended for cancer services in London

Specialist cancer service	Proposed number of sites in London
Specialist penile cancer surgery	2
Sarcoma surgery	2
All oesophago-gastric cancer surgery	4
All pancreatic cancer surgery	3 (operating as HPB centres)
Specialist testicular cancer surgery	3
All brain and CNS cancer surgery	4
All liver cancer surgery	3 (operating as HPB centres)
Lung cancer surgery	5
Specialist head and neck cancer surgery	5
Specialist bladder and prostate and renal surgery	5
Specialist gynaecological cancer surgery	5
HPC transplants	5
Colorectal cancer surgery	Undefined number of sites
Breast cancer surgery	Undefined number of sites

Cancer co-dependencies framework

As the proposed model of care makes recommendations for each tumour type as a separate entity, a further piece of work was needed to identify the co-dependencies between services for different cancers.

The purpose of the cancer co-dependencies framework is to establish a clear, clinically agreed and robust statement of the dependencies for specialist cancer services. The full framework

and supporting information is published as a supporting document to the proposed model of care.

The framework looks only at dependencies for specialist cancer surgery and bone marrow transplant. Non-surgical cancer treatment modalities are not included in the framework. However, any commissioning decisions regarding future services should take into account dependencies with these other treatment types.

The co-dependencies framework is intended to assist commissioners in planning any future service configurations. It can also be used by commissioners and providers as a benchmarking tool against the current provision of services.

Developing the framework

The framework identifies the collocation of different services required to achieve world-class care. Two levels of dependency are identified in the framework:

- An optimal service collocation (dependent relationship), where collocation should be on the same hospital site
- A desirable service collocation (moderately dependent relationship), where, if possible, collocation should be on the same hospital site, or otherwise in the same trust

When deciding on the levels of dependency of services the following factors were considered:

- Clinical dependency: is the collocation of services required to deliver a safe service?
- Patient experience: will the collocation of services result in fewer transfers, reduced lengths of stay and improved patient experience?
- Effective use of resource and financial efficiency: will collocation use available resources more effectively, result in economies of scale, and reduce duplication?
- Optimal level of service: will service collocation improve service delivery?

Collocation of services

As well as a large number of desirable service collocations, the following optimal service collocations are identified:

- All specialist cancer services with the general service for that body part (for example, specialist lung cancer surgery has a dependency with thoracic surgery)
- Liver cancer surgery with pancreatic surgery
- Pancreatic cancer surgery with liver surgery
- Specialist gynaecological cancer surgery with bladder and prostate surgery
- Soft tissue sarcoma (for the provider of retroperitoneal sarcoma surgery only) with oesophago-gastric surgery, bladder and prostate and renal surgery (specialist urology)

Considering the optimal service dependencies in the cancer co-dependencies framework and the recommendations of the proposed model of care, there are three groups of services where collocation is recommended:

- **Service grouping 1:** specialist gynaecological, and specialist prostate and bladder and renal cancer surgery (where the model of care recommendation to confine management of renal cancer to prostate and bladder specialist teams is implemented)
- **Service grouping 2:** liver cancer surgery and pancreatic cancer surgery
- **Service grouping 3:** specialist UAT cancer surgery, base of skull and pituitary cancer surgery, brain and CNS surgery, and spinal cord surgery (where the model of care recommendation to have specialist UAT teams manage malignant thyroid tumours is implemented).

Several specialist services then have moderate dependencies with services in more than one of the above groupings.

For example, soft tissue sarcoma surgery has a moderate dependency with colorectal, gynaecology and UAT surgery.

Therefore, where possible, these three groupings of services could be helpfully collocated with each other.

Taking into account all the moderate service dependencies, with the exception of breast cancer surgery, skin cancer surgery, penile cancer surgery, and HPC transplants where there are no service dependencies identified in the framework, all specialist services listed would benefit from collocation.

Implications of the framework

The cancer co-dependencies framework is a clear, clinically agreed and robust statement of the dependencies for specialist cancer surgery services. It establishes that as far as is possible, these services should be collocated on the same hospital site.

Configuration of specialist services in London to meet just the optimal dependencies identified would result in some consolidation of services, but fragmentation would remain with multiple sites delivering specialist surgery services across the capital.

Configuration to meet both optimal and moderate co-dependencies would result in the creation of a small number of comprehensive cancer centres, a model that is used internationally to provide the best possible outcomes for patients.

11. Financial assessment

Improving early diagnosis will require a limited investment from commissioners. The level of this investment will reflect the success in raising awareness of cancer symptoms, improving the effectiveness of screening programmes, and improving referrals and access to diagnostics.

The recommended changes to care pathways will reduce the time that patients spend in hospital and improve follow-up care, reducing costs to commissioners.

The complexities of identifying cancer-related costs preclude the full costing of each item in the proposed model of care. The financial assessments that have been made are therefore intended to indicate the cost or saving that would result from the changes proposed. The high-level analysis is published as a supporting document to the full model of care.

The proposed model of care reemphasises a number of recommendations made in the Cancer Reform Strategy³¹ and other national recommendations so the costs do not result solely from the implementation of the model of care.

The proposed model of care emphasises that the achievement of earlier diagnosis has the greatest potential for improving outcomes and survival for cancer patients in London. Investment in this area has the potential to increase the early detection of cancer and save the lives of 1,000 Londoners a year. To offset this investment, savings can be made through the commissioning of best practice pathways.

In summary, Figure 6 outlines the pan-London financial impacts of the proposed model of care.

Figure 6: Impact of the proposed model of care

Year 1	Commissioners			Providers		
	Low	Medium	High	Low	Medium	High
Provider networks	£m	£m	£m	£m	£m	£m
Early diagnosis	0.0	0.0	0.0	-0.6	-1.2	-1.8
Providers marginal costs	-3.0	-8.9	-14.8	3.0	8.9	14.8
Screening costs	0.0	0.0	0.0	-2.1	-6.2	-10.4
Common and rare cancers	-0.3	-0.5	-0.8	-0.8	-1.2	-1.7
Non-surgical treatments and general care	0.0	0.0	0.0	0.0	0.0	0.0
Total	1.6	2.9	4.2	-0.5	1.1	2.7
	-1.7	-6.5	-11.4	-1.0	1.4	3.7

Year 2	Commissioners			Providers		
	Low	Medium	High	Low	Medium	High
Provider networks	£m	£m	£m	£m	£m	£m
Early diagnosis	0.0	0.0	0.0	-0.6	-1.2	-1.8
Providers marginal costs	-1.5	-5.9	-10.3	1.5	5.9	10.3
Screening costs	0.0	0.0	0.0	-1.1	-4.1	-7.2
Common and rare cancers	-0.3	-0.5	-0.8	-0.8	-1.2	-1.7
Non-surgical treatments and general care	0.0	0.0	0.0	0.0	0.0	0.0
Total	1.6	2.9	4.2	-0.5	1.1	2.7
	-0.2	-3.5	-6.9	-1.4	0.5	2.3

12. A new way of delivering care

With around 13,600 deaths from cancer in the capital each year and the number of new cases expected to rise, London needs world-class cancer services to meet this major challenge.

London's cancer community has built a compelling case for change, and now puts forward this proposal for a future model of care to London's commissioners.

Achieving the recommendations for earlier diagnosis has the greatest potential for improving outcomes and survival for cancer patients in London. It will go some way to improve survival rates to meet the best in Europe and could translate into saving 1,000 Londoners' lives per year.

The case for change provides a compelling argument for the improvement of cancer services in London. The proposed model of care outlines robust, clinically-led solutions that would ensure that improvements are made in London's cancer services. These improvements would enable earlier diagnoses to be made, improve inpatient care and reduce inequalities in access to and uptake of services.

Commissioning for cancer should be on the basis of care pathways. High quality care should be delivered by networks of providers to allow the sharing of best practice and drive improvements in cancer services. If they were adopted by commissioners, the implementation of these changes will challenge many aspects of the way the NHS has worked in recent years. Success would largely depend on the willingness of the individuals and organisations in London to make these arrangements work.

Acknowledgements

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- Memorial Sloan Kettering Cancer Center, New York
- Sidney Kimmel Comprehensive Cancer Centre at Johns Hopkins, Baltimore
- Stanford Cancer Center, California

Glossary

Cancer Awareness Measure- a tool that has been designed to measure cancer symptom awareness among the general public

Cancer Reform Strategy- a Department of Health cancer strategy published in 2007

Chemotherapy- treatment of cancer using specific chemical agents or drugs that are selectively destructive to malignant cells and tissues

Colorectal- relating to the large bowel (colon and rectum)

Gynaecological- relating to the female reproductive system

Haematological- relating to the blood and blood-forming organs

Haematopoietic progenitor cell transplantation- the transplantation of blood stem cells derived from the bone marrow or blood

Health Innovation and Education Clusters- government funded networks aimed at delivering high quality patient care through better trained clinicians and faster translation and adoption of research and innovation

Hepato-pancreato-biliary- relating to the liver, pancreas and biliary tract

Improving outcomes guidance- service guidance produced by NICE on improving outcomes for patients

Keyworker- a person who, with the patient's consent and agreement, takes a key role in coordinating and promoting continuity of the patient's care, ensuring the patient knows who to

access for information and advice

Laparoscopic surgery- a surgical technique in which operations are performed through small incisions, also called minimally invasive surgery and keyhole surgery

London Specialised Commissioning Group- a joint committee of London PCTs that commissions specialised services collaboratively for all of London

Multidisciplinary team- a group of doctors, nurses and other health care professionals who come together to provide comprehensive assessment of possible and confirmed cancer cases

National Awareness and Early Detection Initiative- Department of Health initiative to co-ordinate and support activities that promote the early diagnosis and treatment of cancer

Neuro-oncology- the branch of medicine dealing with tumours of the nervous system

NHS Cancer Plan- Department of Health cancer strategy published in 2000

NICE (National Institute for Health and Clinical Excellence)- an independent organisation responsible for providing national guidance on promoting good health, and preventing and treating ill health

Oesophago-gastric- pertaining to the oesophagus and stomach

Palliative- medical care or treatment that concentrates on reducing the severity of disease symptoms

Pancreatectomy- removal of all or part of the pancreas

Pancreatic- relating to the pancreas

Pituitary- relating to the pituitary gland

Radiotherapy- the medical use of ionizing radiation as part of cancer treatment to control malignant cells

Sarcoma- a malignant tumour arising in tissue such as connective tissue, bone, cartilage, or striated muscle that spreads by extension into neighbouring tissue or by way of the bloodstream

Systemic anti-cancer therapy (SACT)- A group of therapies including chemotherapy, endocrine therapy, and hormonal therapy used to kill or slow the growth of cancer cells

Thoracic- relating to the region of the body extending from the neck to the diaphragm, not including the upper limbs

Thyroid- relating to the thyroid gland

Upper aero-digestive tract- the region of the body comprised of the ear, nasal cavity, mouth, pharynx, and larynx

Upper gastrointestinal- relating to the oesophagus, stomach and duodenum (small bowel)

Urological- relating to the urinary tracts of males and females, and the reproductive system of males

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CSL intelligence

Increasing efficiency and reducing duplication

CSL service design

Transforming frontline services and driving up standards of care

CSL support

Providing training and development opportunities for NHS commissioners