NHS England

SCHEDULE 2 – THE SERVICES

A. Service Specifications

Service Specification No.	B10/S/a
Service	DRAFT - Thoracic Surgery
Commissioner Lead	
Provider Lead	
Period	12 months
Date of Review	

1. Population Needs

1.1 National/local context and evidence base

Thoracic Surgery comprises the pre, peri and post-operative care of all patients (of all ages) requiring or being assessed for operative treatment of all conditions affecting the thorax, excluding those affecting the heart and great vessels (which are the remit of cardiac surgery).

Because of the frequency of primary lung cancer in the UK population (over 40,000 new cases every year) the majority of patients being managed by thoracic surgeons are affected by this disease. As surgery is the main therapeutic modality providing a chance of cure for lung cancer patients it is crucial that as many patients as possible have access to surgery. The latest report from the UK National Lung Cancer Audit shows that there are significant inequalities throughout the country in terms of access to surgery and subsequent surgical treatment, with a two-fold variation between cancer networks with the lowest and highest surgical resection rate. In addition the rate of surgical resection for

patients in the UK with primary lung cancer is significantly lower than in other developed countries. Calculations incorporating incidence of the disease, the age and co-morbidity of the patients and the early mortality associated with surgery estimate that if all areas of the UK had the same access to surgery as the cancer network with the highest resection rate, over 5,000 deaths from lung cancer would be prevented every 3 years.

Information from the 2010-2011 Society for Cardiothoracic Surgery (SCTS) Thoracic Surgical Register shows that only 29 hospitals throughout England provided thoracic surgery. 22,548 operations were carried out in total, of which 15,302 were classified as major procedures. The number of total/major operations performed within each of the 29 units ranged from 237/183 to 1,974/1,197 procedures per year.

1. NICE 2011 – The diagnosis and treatment of lung cancer (http://www.nice.org.uk/nicemedia/live/13465/54199/54199.pdf)
2. British Thoracic Society – Guidelines on the radical management of patients with lung cancer Thorax 2010, 65(Supp III):iii1-iii27
3. Society for Cardiothoracic Surgery, GB and Ireland, Second National Thoracic Surgery Activity & Outcomes report 2011
Published by Dendrite Clinical Systems Ltd. Henley-on-Thames
ISBN 978-0-9568154-1-5.
4. National Lung Cancer Audit Report 2013 (http://www.hscic.gov.uk/catalogue/PUB12719/clin-audi-supp-prog-lung-nlca-2013-rep.pdf)
5. Manual for Cancer services Acute Oncology Measures 2011

2. Outcomes

2.1 NHS Outcomes Framework Domains & Indicators

Domain 1	**Preventing people from dying prematurely**	**X**
Domain 2	**Enhancing quality of life for people with long-term conditions**	**X**

Domain 3	**Helping people to recover from episodes of ill-health or following injury**	**X**
Domain 4	**Ensuring people have a positive experience of care**	**X**
Domain 5	**Treating and caring for people in safe environment and protecting them from avoidable harm**	**X**

Monitoring of activity and outcomes

The 62-day and 31-day national targets for the management of lung cancer will be embedded within all thoracic surgical Units – Domains 1, 2, 3, 4.

All thoracic surgical units should ensure mechanisms are in place for accurate prospective data collection of information on patients undergoing operative surgery. The SCTS UK and Ireland Thoracic Surgical Register and Database projects specify outcome measures as shown below:-

- Overall surgical activity – Domain 1
- In-hospital mortality – Domain 1
- Any complications – Domains 1, 2, 3, 4, 5
- Air leak after lung resection for primary cancer – Domains 1, 3, 4, 5
- Return to theatre (excluding endoscopy and drain insertion) – Domains 1, 3, 4, 5
- ITU readmission – Domains 1, 3, 4, 5
- Need for ventilation – Domains 1, 3, 4, 5

The SCTS Thoracic Surgical Register is a long-term initiative to which all Units have contributed for many years. The SCTS Thoracic Surgical Database has become available from April 2013.

The National Lung Cancer Audit (usually known as LUCADA) is a separate project which looks at the management of all patients developing lung cancer throughout the UK. Data are collected via lung cancer MDT's. Thoracic Surgical Units must ensure that the relevant information is available to staff at the MDT's in their referring hospitals to ensure comprehensive reports on outcomes for patients.

As well as the aforementioned SCTS Thoracic Surgical Database outcome measure, the following parameters should also be used for the monitoring of thoracic surgical units

Generic outcomes

- For hospital inpatients, time from decision-to-transfer to admission to the thoracic surgical Unit of non-elective referrals – Domains 1, 2, 3, 4, 5
- Time from referral to first appointment in the thoracic surgical out-patient clinic – Domains 1, 2, 3, 4, 5
- Overall cancellation rate for thoracic surgery – Domains 1, 2, 3, 4, 5

Lung cancer outcomes

- One-year and 5-year stage-specific survival for lung cancer resection – Domain 1
- Thoracic surgical input into lung cancer MDT's – Domains 1, 2, 3, 4, 5
- Resection rate for histologically confirmed Stage 1 and 2 non-small cell lung cancers – Domains 1, 2, 3
- Systematic Nodal Dissection for lung cancer resections - % of patients in whom three separate mediastinal nodal stations are obtained – Domains 1, 2, 3

3. Scope

3.1 Aims and objectives of service

As described in 1.1 the principle disease requiring management by thoracic surgery is primary lung cancer. The remaining conditions include other types of thoracic malignancies, pneumothorax, various forms of thoracic sepsis and a large group of miscellaneous conditions which fall outside the remit of other surgical specialties.

Given the particular requirements of care needed for patients undergoing thoracic operations and also the relative infrequency of thoracic surgery as compared to those provided by other surgical specialties (e.g. orthopaedics, general surgery etc.) for over 40 years services have been concentrated in specialist hospitals serving large regions.

3.2 Service description/care pathway

Organisation of services

- Thoracic surgery should be identified as a separate service line within the hospital's directorate structure.
- 24/7 emergency cover provided by general thoracic surgical consultants with or without mixed-practice cardiothoracic surgical colleagues. This should be appropriate to the service requirements. The surgeons on the rota should be able to deal with the full range of thoracic surgical emergencies. Cross cover of rotas from consultants with a purely cardiac practice or from consultants from other specialties is unacceptable.
- 24/7 cover of thoracic surgical inpatients from surgical trainees, speciality doctors and appropriately trained advanced care practitioners.
- Consultant thoracic surgeons are core members of lung cancer MDT's. These meetings occur on a weekly basis are based in all hospitals in England. There are over 130 such meetings every week requiring attendance by thoracic surgeons. Thoracic surgical Units are therefore required to ensure that the job plans of their surgeons include sufficient time for travel to and attendance at the lung cancer MDT's in their region. This should preferably be in person although teleconference linkage with the meetings from the surgeons' base hospital is an appropriate alternative.
- New peer-review measures require a quorum of core member attendance at MDT's for 95% of the time. It is therefore necessary that services are arranged to ensure cover for individual consultant surgeons' absences from the MDT's due to annual, professional and study leave. This cover should be provided by named consultant colleagues and/or competent specialty doctors.
- Patients are seen for opinions as to their suitability for thoracic surgery and pre-operative assessment in dedicated thoracic clinics. Where possible this should be arranged in outreach clinics in the hospitals served by the regional thoracic Unit for the convenience of patients and to ensure full access to the thoracic surgical service.
- For those hospitals without on-site thoracic surgery it is essential that the populations they serve are not disadvantaged in any way. These hospitals should have close links with nominated surgeons working in the regional centre, such that

thoracic surgical expertise can be accessed throughout the working week. It is essential that these hospitals ensure that all relevant patient information especially documentation and imaging via PACS (e.g. CT and PET-CT scans) is readily available to the regional centre.

Consultant surgical staffing

There is good evidence that the appointment of surgeons with a full-time thoracic job plan at the expense of mixed-practice cardiothoracic surgeons is associated with an overall increase in lung cancer survival in England. (Lau et al, J Thorac Oncol 2013, 8:68-72. Luchtenborg et al, J Clin Oncol, 2013, Sep1:3141-3146)

Although thoracic surgery is becoming more specialised, surgeons with mixed-practice cardiothoracic surgery currently provide a substantial proportion of the work of thoracic surgery for England. A recent SCTS survey of the current (2015) consultant staffing of thoracic surgical services in England showed that there were 80 full-time thoracic surgeons and 32 mixed practice surgeons. Because of the limitations of training time, the increasing breadth of knowledge and therapies within the specialty of cardiothoracic surgery, and the need for surgeons to contribute to MDT meetings, it is clear that in the long term mixed-practice surgeons will be replaced by consultants with job plans consisting entirely of either thoracic or cardiac surgery.

The proportion of thoracic surgical practice within the overall workload of the 32 mixed-practice surgeons varies between a very small amount and over 50% of their practice. In contrast there are currently over 200 consultants with a full-time cardiac practice in England. Therefore the contribution of the mixed-practice surgeons to the overall cardiac surgery workload in England is relatively small. It is likely that those mixed-practice surgeons with a 50:50 division of their work are the ones who will move to full-time thoracic surgery, whereas those with a small thoracic practice will become full-time cardiac surgeons. Therefore the improvements in services for thoracic surgical patients envisaged by this service specification will have a negligible impact on cardiac surgical services in England

Based on likely retirements over the next 5 years, the need to produce sufficient numbers

of thoracic trainees to become available to fill the consultant posts for the service and the time needed for Units to make the appropriate adaptations to their staffing arrangements based on the requirements of the service specification already alluded to, it will not be necessary for Units to employ surgeons who have a mixed cardiothoracic practice beyond the year 2020.

If not already present, plans should be made within each Unit to have an absolute minimum of 3 full-time general thoracic surgeons leading thoracic surgical services. There should be no new appointments of surgeons with mixed-practice cardiothoracic surgical job plans.

In the meantime to maintain an appropriate standard of thoracic surgery, those Units which continue to employ mixed-practice cardiothoracic surgeons should ensure the following areas of clinical activity are present within their job plans:-

- Dedicated thoracic theatre sessions with at least one whole-day list per week. Anything less than this would mean that it would be impossible for surgeons to provide sufficient level of activity for their employing Trusts to be assured of their competencies.
- Weekly lung cancer MDT
- Take part in the emergency on-call rota for thoracic surgery
- Appraisals should include specific reference to thoracic outcomes and activities.
- The practice of arranging for a mixed cardiothoracic list where thoracic procedures are listed after a cardiac operation should no longer be a part of modern cardiac or thoracic surgery.

Trauma services

The recently constituted major trauma centers require input from specialised cardiac and thoracic surgeons. Although the number of patients actually affected by chest trauma requiring this service is small, on such occasions the input of an appropriately trained specialist surgeon can be life-saving. The current standard is that a specialist cardiothoracic surgeon is available within 30 minutes to assist in the care of those

patients with life-threatening chest trauma. There is significant variation throughout the country as to how this is organized for the trauma centre by the regional cardiac and thoracic Units. In some cases all trauma is looked after by one side of the specialty, leading to the concern over inferior care for patients – for example a patient with cardiac trauma is cared for by a thoracic surgeon and vice-versa.

With increasing specialization and separation between cardiac and thoracic surgical services, there will be two emergency rotas for surgeons to be available to help with trauma, whereas in most cases there is currently only one. There will therefore be an improvement in the care of patients with major chest trauma as a result of the changes specified in this document.

Commissioning for highly specialised Thoracic Surgery

The following areas of medicine which rarely require surgical treatment have been identified as of being of sufficient rarity for it to be impractical for every Thoracic Surgical service to provide for them:-

- Complex tracheal diseases especially those being considered for resection
- Radical surgery for mesothelioma
- Thoracic surgical diseases in children.

Services for patients in these groups should be configured based on the number requiring operative thoracic surgical treatment, although the exact numbers of procedures per unit for optimum care of patients will require further debate. Given the population of England and the rarity of some of the conditions it is conceivable that in some instances only one centre is commissioned in England to carry out the very rare operations.

3.3 Population covered, and operative workload of Thoracic Surgical Units

Patients usually access thoracic surgery as a tertiary service via referrals from respiratory physicians and other hospital consultants. A small proportion are referred to the service directly from primary care, or as emergencies via A & E departments especially following trauma. As the majority of the patients in the service are managed within the 62 and 31-

day cancer targets, the intervals to be seen in thoracic surgical clinics are short, which also benefits those thoracic surgical patients with non-malignant conditions. The peripatetic nature of thoracic surgeons' work in attending peripheral clinics further facilitates access.

Recent evidence (Luchtenborg et al, J Clin Oncol, 2013, Sep1:3141-3146) regarding the operative workload of Thoracic Units and outcomes after primary lung cancer surgery show that there is a positive correlation between high volume Units and patient survival. Those Units carrying out more than 150 resections per year (especially when compared to those carrying out less than 70 resections) have the best short and long term survivals for their patients, despite operating on higher-risk patients. Thus the aspiration for the service in England should be that all Units should carry out at least 150 lung cancer resections per year, this should be achieved by 2018/19. No Units should provide a lung cancer surgical service where less than 70 patients are treated per year.

The most recent data (2013-14 activity) from the SCTS Thoracic Register shows that 18 of the current 29 Units England carried out at least 150 annual resections. Of the remaining 11 Units, 2 are already in the process of moving their thoracic surgical services to neighboring Units. The other 9 Units carried out between 65 and 126 resections in 2013-14. It is likely that the numbers will continue to increase in all Units over the next few years given the increasing proportion of lung cancer patients being treated with surgery, especially with the increasing numbers of general thoracic surgeons in post. If this doesn't occur such that not all Units are able to offer a high-volume lung cancer service, then some current providers will no longer be able to provide an adequate long-term Thoracic Surgical service for lung cancer patients. It is anticipated that the target of over 150 resections for primary lung cancer per Unit per year will be applicable for commissioning of services for the year 2017-18.

The specifications outlined in this document mean that in order to satisfy the requirements for a Unit to provide 24/7 emergency cover as well as other duties by at least 3 competent thoracic surgeons, the minimum population served by thoracic surgical units would need to be in the order of 1.5 million. This figure will vary depending on the incidence of thoracic disease within the population served, especially the incidence of

lung cancer. Although there is good evidence that the UK has an under-provision of thoracic surgery, spreading the expertise of thoracic surgery too thinly or diluting it within the job-plans of consultants such that they spend the majority of their time providing a cardiac surgical service will not help to remedy this under-provision. On the contrary there is good evidence that the appointment of surgeons with a full-time thoracic job plan at the expense of mixed-practice cardiothoracic surgeons leads to an overall increase in activity and survival. This is clearly the way forward for the service in the medium to long-term.

Thoracic surgery in children is a much rarer requirement than in adults and will be the subject of separate commissioning.

3.4 Any acceptance and exclusion criteria and thresholds

Thoracic Surgery is an inclusive service for all patients requiring or being assessed for operative treatment of all conditions affecting the thorax, excluding the following:-

1. Diseases of the heart and great vessels which are the remit of Cardiac Surgery
2. Oesophagogastric cancer.

The service outlined in this specification is for patients ordinarily resident in England; or otherwise the commissioning responsibility of the NHS in England.* This excludes patients who whilst resident in England, are registered with a GP practice in Wales, but includes patients resident in Wales who are registered with a GP Practice in England.

3.5 Interdependencies with other services/providers

The following service and facilities are essential for the safe and effective provision of thoracic surgical services:

- Respiratory Medicine is the prime referring speciality for most conditions requiring thoracic surgery. Respiratory physicians are core members of lung cancer and emphysema MDTs. Management of empyema, pneumothorax and pleural effusion may be conducted jointly. Respiratory Medicine colleagues are usually

responsible for the supervision of lung function testing and pulmonary rehabilitation. It therefore essential that Respiratory Medical services are closely allied to those for Thoracic Surgery. In most cases the two services will be co-located on the same site; if this is not the case then plans should be made by providers to ensure that this occurs for the commissioning of services in 2017.

- Out-patient clinic space, including facilities for pre-op assessment and pre-admission
- Specialised thoracic surgical ward
- Specialised thoracic operating theatres and recovery area
- Access to interventional bronchoscopy
- Immediate access to thoracic surgical high-dependency (level 2) and/or intensive care (level 3) units for selected patients
- Support from the full range of specialist thoracic pathology services. This should be easily accessible especially for frozen section analysis of intra-operative specimens, the results of which should be communicated with the operating surgeon within 1 hour of the sample being taken
- Support from all other hospital services especially interventional radiology

3.6 Staffing of Thoracic Units

- Consultant-led care by general thoracic surgeons, with or without surgeons with a mixed cardiothoracic practice (see section 3.2), supported by surgical trainees and/or specialty doctors and advanced care practitioners
- Consultant anaesthetists with specialist thoracic expertise
- Theatre staff with thoracic expertise
- Specialist ward and HDU nurses with thoracic expertise
- Specialised thoracic physiotherapy, including a service out of hours and at weekends
- Specialist support in areas such as pre and post-operative assessment, post-op pain control, and palliative care
- Lung cancer nurse specialist support in thoracic surgical clinics/wards
- Thoracic nurse specialist support in all areas
- Designated administrative staff to ensure all clinical staff are supported in the

timely delivery and monitoring of an effective service

4. Applicable Service Standards

4.1 Applicable national standards e.g. NICE

Department of Health

- Improving Outcomes; a Strategy for Cancer – Department of Health (2011) with updates to 2014.
- Cancer Commissioning Guidance - Department of Health (2011)
- Five year forward view - Department of Health (2014)
- Report of the Independent Cancer Taskforce - 'Achieving World-Class Cancer Outcomes: A Strategy for the NHS 2015-2020'

NICE

- Improving Supportive and Palliative Care for adults with cancer - NICE (2004)
- Improving Outcomes in Lung Cancer – NICE (1998)
- Referral guidelines for suspected cancer - NICE Clinical Guideline 27 (2005)
- Quality Standard for Lung Cancer – NICE (2012)
- Quality Standard for end of life care for adults – NICE (2011)
- Lung Cancer: The diagnosis and treatment of Lung Cancer – CG121 (2011)

Cancer Peer Review

- Manual for Cancer Services: Lung Measures, Version 1.1 April 2013 – National Cancer Peer Review Programme, NHS England.

4.2 Applicable standards set out in Guidance and/or issued by a competent body (e.g. Royal Colleges)

As in 1.1.

There must be access to the centrally provided diagnostic pathology service included molecular diagnostics. The pathology services should operate as per Royal College of Pathologists' guidelines and standards. Laboratories should comply with Clinical Pathology Accreditation (UK) Ltd (CPA) and participate in appropriate NEQAS modules. Where pathology is available, pathologists should complete the Royal College of Pathologists' minimum dataset for lung cancer for discussion at the lung cancer MDT. All non-squamous cancers should be sent for mutation testing where targeted treatment of the mutations would be offered. Mutation testing should not be done for patients who are too unfit for treatment and in those offered surgical resection as adjuvant treatment with biological agents is not currently recommended.

5. Applicable quality requirements and CQUIN goals

5.1 Applicable quality requirements (See Schedule 4 Parts A-D)

5.2 Applicable CQUIN goals (See Schedule 4 Part E)

These are in the process of being developed and will be inserted once agreed.

6. Location of Provider Premises

The Provider's Premises are located at:

Not applicable.

7. Individual Service User Placement

Not applicable.

Appendix One

Quality standards specific to the service using the following template:

TO BE POPULATED FROM SECTION 2.1

Quality Requirement	Threshold	Method of Measurement	Consequence of breach
Domain 1: Preventing people dying prematurely			
Insert text			
Domain 2: Enhancing the quality of life of people with long-term conditions			
Insert text			
Domain 3: Helping people to recover from episodes of ill-health or following injury			
Insert text			
Domain 4: Ensuring that people have a positive experience of care			
Insert text			
Domain 5: Treating and caring for people in a safe environment and protecting them from avoidable harm			
Insert text			

Appendix Two

Adult thoracic surgery services include all services provided by Adult Thoracic Surgery Centres including outreach when delivered as part of a provider network. (Manual)

Service Description	Type	NPOC	NCBPS
Adult thoracic surgery services - outpatients	Adult	A14 (Previously A12)	29Z

Data Flows
The data flows used to support the service are:

- Outpatient attendances via SUS

How the activity for this service is identified

This service includes ALL activity at specified centres.

How to use the identification rules

1. Outpatient attendances can be identified by using the 173 (Thoracic Surgery) treatment function codes

Service Description	Type	NPOC	NCBPS
Adult thoracic surgery services – malignant mesothelioma	Adult	B10	01K

Data Flows

The data flows used to support the service are:

- Inpatient activity via SUS
- ITU activity via SUS
- Drugs data via local data flow

How the activity for this service is identified

This service includes ALL activity at specified centres.

How to use the identification rules

1. Inpatient activity is identified by the presence of the relevant diagnosis codes documented within the identification rules software tool
2. Any ITU activity generated as a result of the inpatient activity above should also be identified.
3. The identification rules identifies that PbR/National Tariff excluded high cost drugs used to support the clinical management of thoracic surgery patients are chargeable to commissioners of prescribed specialised services. Trusts are encouraged to use their prescribing systems to identify the amount and cost of drugs used for this patient cohort.