



LUNG MEASURE SPECIFICATIONS

Cancer Programs Practice Profile Reports (CP³R)

Introduction

The Commission on Cancer's (CoC) National Cancer Data Base (NCDB) staff has undertaken an effort to improve the transparency with which the measures in the CP³R and RQRS reporting systems are calculated. To this end, for each measure, supporting information, three tables and a flow-diagram are provided:

- The measure type, clinical rationale and references are provided.
- The *Measure Item List* table provides each cancer registry data item used in the assessment of the indicated measure. This includes the FORDS data item name, the North American Association of Central Cancer Registry (NAACCR) item number and a brief description of each item.
- The *Case Eligibility Criteria* table itemizes the steps taken to determine whether cases belong in the measure denominator for cases diagnosed 2010 and later. Each condition is described and is accompanied by the data item and code values used in the assessment.
- The *Numerator Criteria* table illustrates how cases are assessed to determine whether they qualify for the numerator of the measure, in other words are concordant for the standard of care.
- A **flow-diagram** is provided to illustrate the steps through which cases pass as they are evaluated for the indicated measure. The number appearing in each flow-diagram element corresponds to the assessment criteria appearing in the *Case Eligibility Criteria* and *Numerator Criteria* tables.

Measure Descriptions

This document provides specifications for the following measures:

Measure	Measure Abbreviation	Measure Type
At least 10 regional lymph nodes are removed and pathologically examined for AJCC stage IA, IB, IIA, and IIB resected NSCLC.	10RLN	Surveillance
Systemic chemotherapy is administered within 4 months to day preoperatively or day of surgery to 6 months postoperatively, or it is recommended for surgically resected cases with pathologic, lymph node-positive (pN1) and (pN2) NSCLC.	LCT	Quality Improvement
Surgery is not the first course of treatment for cN2, M0 lung cases	LNoSurg	Quality Improvement

Note: Newly adopted measures will be integrated into CP³R prior to their release in RQRS.

Measure Type

There are several types of measures approved by the CoC. Evidence-based measures or **accountability** measures promote improvements in care delivery and are the highest standard for measurement. These measures demonstrate provider accountability, influence payment for services and promote transparency. The **quality improvement** measure function is to monitor the need for quality improvement or remediation. Generally, these measures are for individual program use. **Surveillance** measures are used to identify the status quo, generate information for decision making, and/or to monitor patterns and trends of care. The following Table summarizes the purposes and use of these measures:

Measure Type	Measure definition and use
Accountability	High level of evidence supports the measure, including multiple randomized control trials. These measures can be used for such purposes as public reporting, payment incentive programs, and the selection of providers by consumers, health plans, or purchasers.
Quality Improvement	Evidence from experimental studies, not randomized control trials supports the measure. These are intended for internal monitoring of performance within an organization.
Surveillance	Limited evidence exist that supports the measure or the measure is used for informative purposes to accredited programs. These measures can be used for to identify the status quo as well as monitor patterns and trends of care in order to guide decision-making and resource allocation.



10RLN – Lung measure - At least 10 regional lymph nodes are removed and pathologically examined for AJCC stage IA, IB, IIA, and IIB resected NSCLC.

Measure type: Surveillance

Clinical rationale:

The NCDB does not collect nodal basin at this time. However analyses have indicated a difference in survival relative to the number of nodes removed and pathologically examined for resected non-small cell lung cancer patients.

References:

1. Ludwig MS, Goodman M, Miller DL, Johnstone PA. Postoperative survival and the number of lymph nodes sampled during resection of node-negative non-small cell lung cancer. Chest. 2005 Sep;128(3):1545-50. <http://www.ncbi.nlm.nih.gov/pubmed/16162756>
2. Limited Thoracic Lymphadenectomy Worsens Survival in 55,122 Patients with Resected Stage I Non-Small Cell Lung Cancer P217 Society of Surgical Oncology 66th Annual Symposium, March 6-9, 2013

Note: This measure applies to cases diagnosed in 2010 and later.

Measure Item List		
FORDS Data Item	NAACCR #	Description
Primary Site	400	Organ of origin of the cancer
Sex	220	Sex of patient
Age at Diagnosis	230	Age of patient at diagnosis
Sequence Number	560	Sequence of malignant and nonmalignant neoplasms over the lifetime
Histology	522	Microscopic or cellular anatomy of the cancer
Behavior Code	523	Neoplastic behavior of the cancer
Class of Case	610	Indicates the reporting facility's role in managing the cancer
Pathologic T	880	AJCC Pathologic T
Pathologic N	890	AJCC Pathologic N
Clinical M	960	AJCC Clinical M
Pathologic M	900	AJCC Pathologic M
Surgical Procedure of the Primary Site at this facility	670	Surgical procedure of the primary site performed at this facility
Regional Lymph Nodes Examined	830	Total number of regional lymph nodes that were removed and examined
Regional Lymph Nodes Positive	820	Total number of regional lymph nodes examined and found to contain metastases

Case Eligibility Criteria			
Diagram Reference	Assessment	FORDS Item	FORDS Codes
1	Primary Site - Lung	Primary Site	C34.0, C34.1, C34.2, C34.3, C34.8, C34.9
2	Male or female	Sex	1, 2
3	Adult patient over the age of 17 at diagnosis	Age at Diagnosis	018-120
4	Any Sequence of malignant neoplasm	Sequence Number	00 – 59, 99
5	Stageable Lung Histologies, excluding small cell, neuroendocrines, carcinoids, bronchalveolar carcinoma, & other non-lung histologies, such as salivary gland tumors listed in AJCC 7 th ed.	Histology	8012, 8014 - 8035, 8046 - 8199, 8201 - 8239, 8242, 8243, 8247, 8248, 8255 - 8429, 8431 - 8499, 8501 - 8561, 8563 - 8575
6	Invasive tumors	Behavior Code	3
7	Pathologic Stage IA, IB, IIA, IIB defined by Pathologic TNM, & Clinical M according to AJCC 7 th ed.	Pathologic T Pathologic N Clinical M Pathologic M	<p>Pathologic TNM = [(Stage IA: Pathologic T=p1, N=(c0,p0), M=c0; or T=p1A, N=(c0,p0) M=c0; or T=p1B, N=(c0,p0), M=c0; <i>OR</i> Stage IB: Pathologic T=p2A, N=(c0,p0), M=c0; <i>OR</i> Stage IIA: Pathologic T=p2B, N=(c0,p0), M=c0; or T=(p1,p1A,p1B,p2A), N=p1, M=c0; <i>OR</i> Stage IIB: Pathologic T=p2B, N=p1, M=c0; or T=p3, N=(c0,p0) M=c0] AND Clinical M=c0 <i>(missing Clinical/Pathologic M=c0)</i></p>
8	All or part of the first course of treatment was performed at the reporting facility	Class of Case	10, 11, 12, 13, 14, 20, 21, or 22
9	Surgically Treated cases at this Facility	Surgical Procedure of the Primary Site at the Reporting Facility	20-90

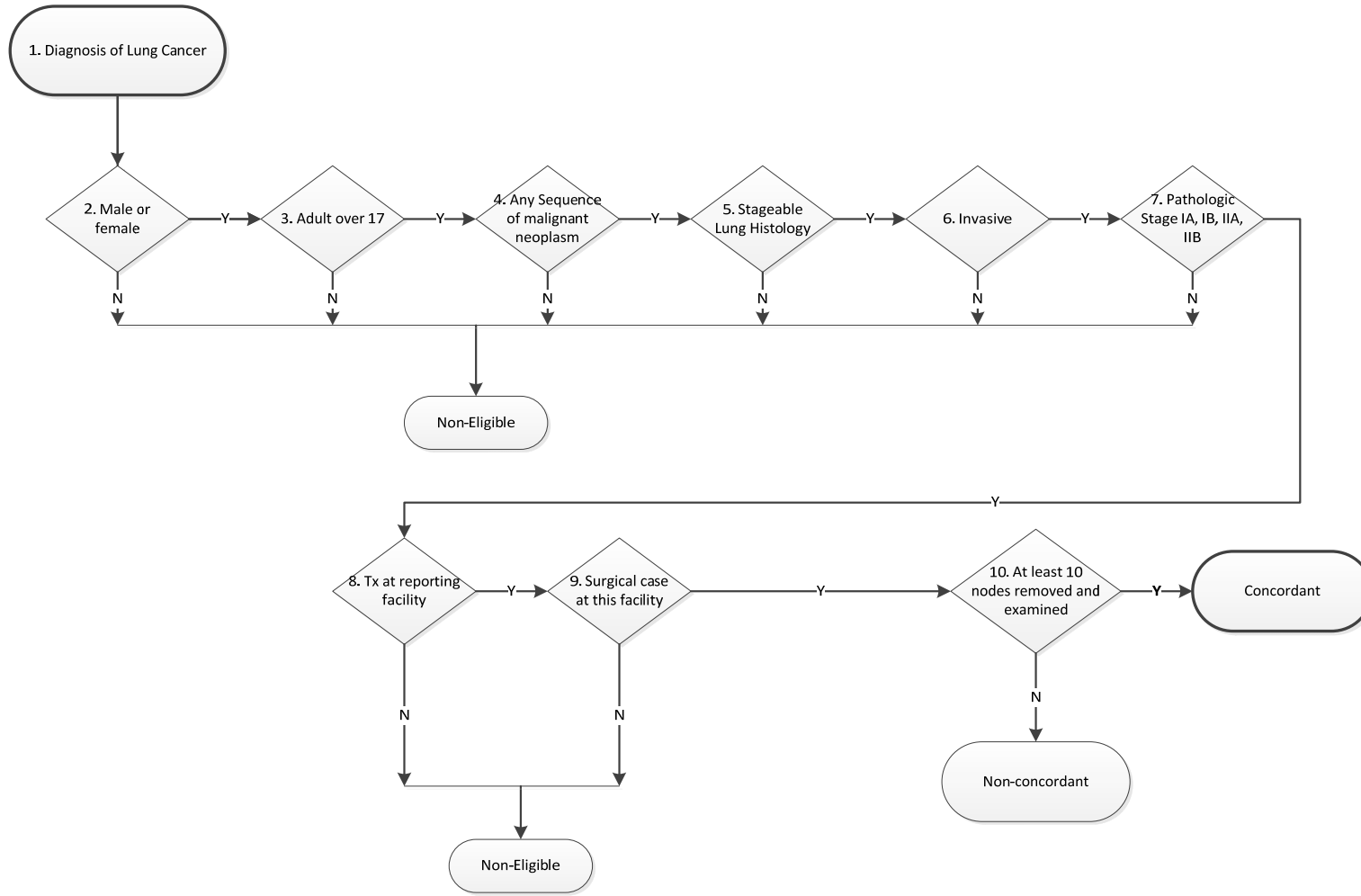
Numerator Criteria			
Diagram Reference	Assessment	FORDS Item	FORDS Codes
10	At least 10 regional lymph nodes are removed and pathologically examined for AJCC stage IA, IB, IIA, and IIB resected NSCLC.	Regional Lymph Nodes Examined	Regional Lymph Nodes Examined = 10-90
		Regional Lymph Nodes Positive	AND Regional Lymph Nodes Examined \geq Regional Lymph Nodes Positive

Note:

- 1) November 2014 release: 10RLN measure introduced to CP3R.
- 2) November 2015 release: No changes have been made to the NSCLC 10RLN measure.
- 3) August 2016 Updates:
 - a. NAACCRv16, add c or p prefix to TNM.



10RLN – Lung measure - At least 10 regional lymph nodes are removed and pathologically examined for AJCC stage IA, IB, IIA, and IIB resected NSCLC.





LCT - Lung measure: Systemic chemotherapy is administered within 4 months to day preoperatively or day of surgery to 6 months postoperatively, or it is recommended for surgically resected cases with pathologic, lymph node-positive (pN1) and (pN2) NSCLC

Measure Type: Quality Improvement

References:

1. Roth JA, Fossella F, Komaki R, Ryan MB, Putnam JB Jr, Lee JS, Dhingra H, De Caro L, Chasen M, McGavran M. A randomized trial comparing perioperative chemotherapy and surgery with surgery alone in resectable stage IIIA non-small-cell lung cancer. *J Natl Cancer Inst.* 1994 May 4;86(9):673-80.

Note: This measure applies to cases diagnosed in 2010 and later.

Measure Item List		
FORDS Data Item	NAACCR #	Description
Primary Site	400	Organ of origin of the cancer
Sex	220	Sex of patient
Age at Diagnosis	230	Age of patient at diagnosis
Sequence Number	560	Sequence of malignant and nonmalignant neoplasms over the lifetime
Histology	522	Microscopic or cellular anatomy of the cancer
Behavior Code	523	Neoplastic behavior of the cancer
Class of Case	610	Indicates the reporting facility's role in managing the cancer
Pathologic N	890	AJCC Pathologic N
Clinical M	960	AJCC Clinical M
Pathologic M	900	AJCC Pathologic M
Vital Status	1760	Vital Status of the patient as of the date entered in Date of Last Contact
Date of Last Contact or Death	1750	Date of last contact with the patient or the date of death
Surgical Procedure of the Primary Site	1290	Surgical procedure of the primary site performed at any facility
Date of First Surgical Procedure	1200	The earliest date on which any first course surgical procedure was performed
Chemotherapy	1390	The type of chemotherapy administered as first course of treatment at any facility
Date Chemotherapy Started	1220	Date of the initiation of chemotherapy that is part of the first course of treatment
<i>Exclusion</i> (This is a user field in CP ³ R, it is not a FORDS item)	N/A	Field used to manually exclude cases

Case Eligibility Criteria			
Diagram Reference	Assessment	FORDS Item	FORDS Codes
1	Diagnosis of Lung cancer	Primary Site	C34.0, C34.1, C34.2, C34.3, C34.8, C34.9
2	Exclude manually censored cases	Exclusion <i>(This is a user field in CP³R, it is not a FORDS item)</i>	Exclude: 80 - Patient enrolled in a clinical trial that directly impacts delivery of the standard of care
3	Male or female	Sex	1, 2
4	Adult patient over the age of 17 at diagnosis	Age at Diagnosis	018-120
5	First or only diagnosis of malignant neoplasm	Sequence Number	00 or 01
6	Stageable Lung Histologies, excluding small cell, neuroendocrines, carcinoids, & other non-lung histologies, such as salivary gland tumors listed in AJCC 7 th ed.	Histology	8012, 8014 - 8035, 8046 - 8199, 8201 - 8239, 8242, 8243, 8247, 8248, 8250 - 8429, 8431 - 8499, 8501 - 8561, 8563 - 8573, 8575
7	Invasive tumors	Behavior Code	3
8	Surgical pN1 or pN2, M≠1 cases	Pathologic N	Pathologic N=p1, Clinical/Pathologic M=c0 OR Pathologic N=p2, Clinical/Pathologic M=c0 <i>(missing Clinical/Pathologic M=c0)</i>
		Clinical M	
		Pathologic M	
9	All or part of the first course of treatment was performed at the reporting facility	Class of Case	10, 11, 12, 13, 14, 20, 21, or 22

10	Surgically Treated Cases at any Facility	Surgical Procedure of the Primary Site	20-90
11	Patient received chemotherapy or was reported living within 180 days from date of surgery (<i>exclude cases who died within 180 days of surgery with no chemo</i>)	Chemotherapy Date of First Surgical Procedure Date of Last Contact or Death Vital Status	Vital Status = 1 OR (Chemotherapy 01, 02, 03) OR (#Elapsed days between surgery and last contact > 180)

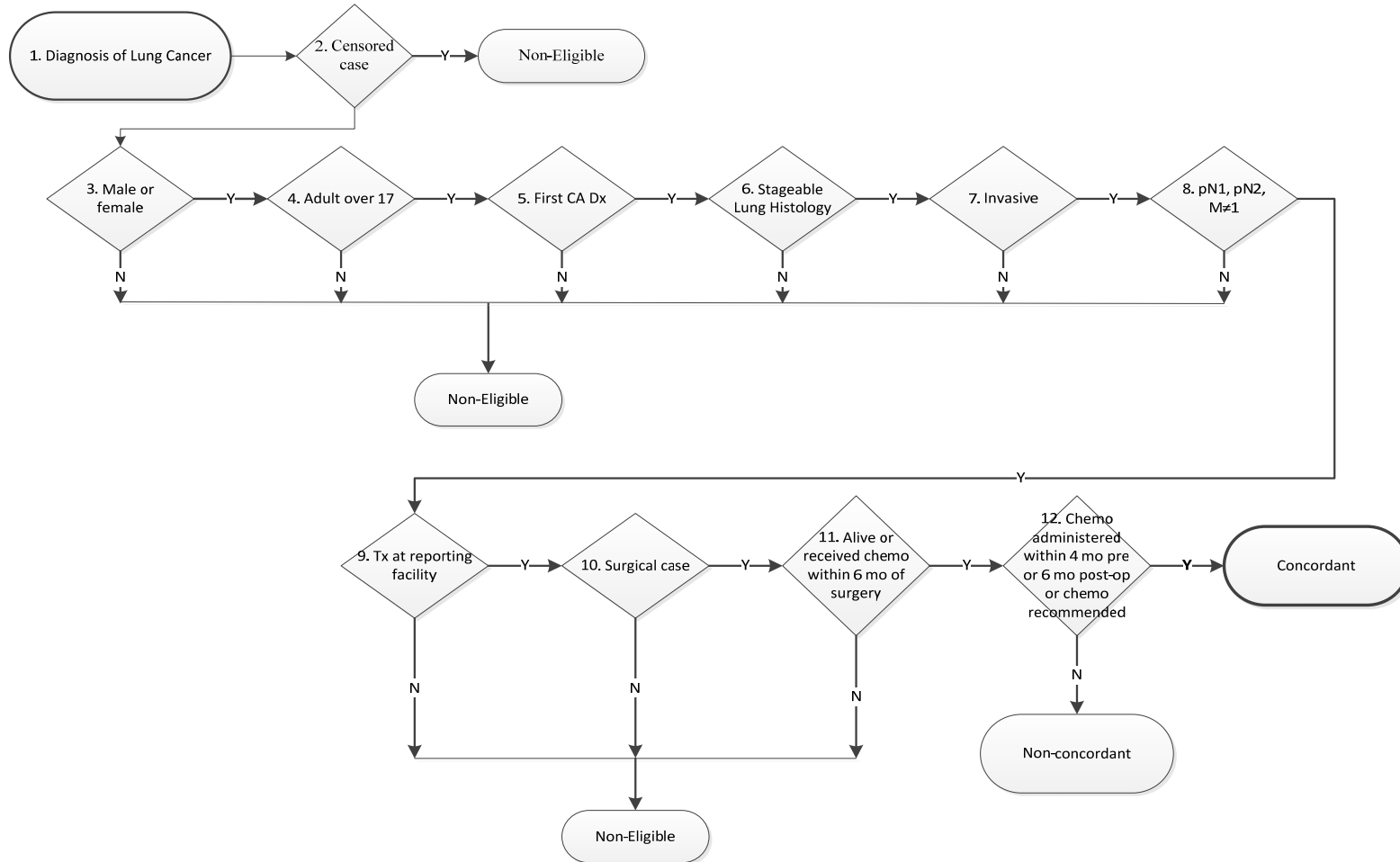
Numerator Criteria			
Diagram Reference	Assessment	FORDS Item	FORDS Codes
12	Systemic chemotherapy is administered within 4 months to day preoperatively or day of surgery to 6 months postoperatively, or it is recommended any time for surgically resected cases with pathologic lymph node-positive (pN1) and (pN2) NSCLC.	Chemotherapy	01, 02, 03 <i>AND</i> (Date of First Surgical Procedure - Date Chemotherapy Started < 120 days <i>or</i> Date Chemotherapy Started - Date of First Surgical Procedure <= 180 days) OR 82, 85, 86, 87, 88
		Date Chemotherapy Started	
		Date of First Surgical Procedure	

Note:

- 1) September 2015 CP3R release: No changes have been made to the LCT measure.
- 2) November 2015 CP3R release Updates:
 - a. Allow for manual exclusion with censor 80
- 3) August 2016 Update:
 - a. NAACCRv16, add c or p prefix to TNM.



LCT - Systemic chemotherapy is administered within 4 months to day preoperatively or day of surgery to 6 months postoperatively, or it is recommended for surgically resected cases with pathologic lymph node-positive (pN1) and (pN2) NSCLC.





LNoSurg – Lung measure: Surgery is not the first course of treatment for cN2, M0 cases

Measure Type: Quality Improvement

Note: This measure applies to cases diagnosed in 2010 and later.

Measure Item List		
FORDS Data Item	NAACCR #	Description
Primary Site	400	Organ of origin of the cancer
Sex	220	Sex of patient
Age at Diagnosis	230	Age of patient at diagnosis
Sequence Number	560	Sequence of malignant and nonmalignant neoplasms over the lifetime
Histology	522	Microscopic or cellular anatomy of the cancer
Behavior Code	523	Neoplastic behavior of the cancer
Class of Case	610	Indicates the reporting facility's role in managing the cancer
Clinical N	950	AJCC Clinical N
Clinical M	960	AJCC Clinical M
Pathologic M	900	AJCC Pathologic M
Surgical Procedure of the Primary Site	1290	Surgical procedure of the primary site performed at any facility
Date of Most Definitive Surgical Resection of the Primary Site	3170	Date of Most Definitive Surgical Resection of the Primary Site performed as part of the first course of treatment
Chemotherapy	1390	The type of chemotherapy administered as first course of treatment at any facility
Date Chemotherapy Started	1220	Date of the initiation of chemotherapy that is part of the first course of treatment

Regional Treatment Modality	1570	Dominant Modality of radiation therapy used to deliver the most clinically significant regional dose
Date Radiation Started	1210	The date on which radiation therapy began at any facility
Hormone Therapy	1400	Type of hormone therapy administered at any facility
Date Hormone Therapy Started	1230	The date of the initiation of hormone therapy
Immunotherapy	1410	Type of immunotherapy administered at any facility
Date Immunotherapy Started	1240	The date of the initiation of immunotherapy or BRM
<i>Exclusion</i> <i>(This is a user field in CP³R, it is not a FORDS item)</i>	N/A	Field used to manually exclude cases

Case Eligibility Criteria			
Diagram Reference	Assessment	FORDS Item	FORDS Codes
1	Primary Site - Lung	Primary Site	C34.0, C34.1, C34.2, C34.3, C34.8, C34.9
2	Exclude manually censored cases	Exclusion <i>(This is a user field in CP³R, it is not a FORDS item)</i>	Exclude: 80 - Patient enrolled in a clinical trial that directly impacts delivery of the standard of care
3	Male or female	Sex	1, 2
4	Adult patient over the age of 17 at diagnosis	Age at Diagnosis	018-120
5	First or only diagnosis of malignant neoplasm	Sequence Number	00 or 01
6	Stageable Lung Histologies, excluding small cell, neuroendocrines, carcinoids, & other non-lung histologies, such as salivary gland tumors listed in AJCC 7 th ed.	Histology	8012, 8014 - 8035, 8046 - 8199, 8201 - 8239, 8242, 8243, 8247, 8248, 8250 - 8429, 8431 - 8499, 8501 - 8561, 8563 - 8575
7	Invasive tumors	Behavior Code	3
8	cN2, M0 cases	Clinical N	Clinical N=c2, Clinical/Pathologic M=c0 <i>(missing Clinical/Pathologic M=c0)</i>
		Clinical M	
		Pathologic M	
9	All or part of the first course of treatment was performed at the reporting facility	Class of Case	10, 11, 12, 13, 14, 20, 21, or 22
10	Surgically and Non-surgically Treated Cases at any Facility	Surgical Procedure of the Primary Site	00, 12, 13, 15, 19, 20 - 25, 30, 33, 45 - 48, 55, 56, 65, 66, 70, 80, 90

Numerator Criteria			
Diagram Reference	Assessment	FORDS Item	FORDS Codes
11	Non-Surgically Treated Cases – at least one treatment administered	Surgical Procedure of the Primary Site	00, 12, 13, 15, 19 AND (Chemotherapy = 01, 02, 03 OR Regional Treatment Modality = 20 - 32, 40 - 43, 50 - 55, 60 - 62, 98 OR Hormone Therapy = 01 OR Immunotherapy = 01)
		Chemotherapy	
		Regional Treatment Modality	
		Hormone Therapy	
		Immunotherapy	
12	Non-Surgical Cases – treatment not administered <i>(decision not to treat has been made, or treatment was recommended but not administered, or treatment is pending, or code is missing or unknown)</i>	Surgical Procedure of the Primary Site	00, 12, 13, 15, 19 AND (Chemotherapy = 00, 82, 85, 86, 87, 88 OR Regional Treatment Modality = 00 OR Hormone Therapy = 00, 82, 85, 86, 87, 88 OR Immunotherapy = 00, 82, 85, 86, 87, 88 OR Treatment code missing/unknown)
		Chemotherapy	
		Regional Treatment Modality	
		Hormone Therapy	
		Immunotherapy	
13	Surgical Cases with at least one neo-adjuvant treatment <i>(This measure reflects the overall patient's quality of care. If surgery was performed as first treatment at another facility, case is non-concordant with this measure for the patient)</i>	Surgical Procedure of the Primary Site	20-90 AND (Chemotherapy = 01, 02, 03 & Date Chemotherapy Started < Date of Most Definitive Surgical Resection of the Primary Site OR Regional Treatment Modality = 20 - 32, 40 - 43, 50 - 55, 60 - 62, 98 & Date Radiation Started < Date of Most Definitive Surgical Resection of the Primary Site OR Hormone Therapy = 01 & Date Hormone Therapy Started < Date of Most Definitive Surgical Resection of the Primary Site OR Immunotherapy = 01 & Date Immunotherapy Started < Date of Most Definitive Surgical Resection of the Primary Site)
		Date of Most Definitive Surgical Resection of the Primary Site	
		Chemotherapy	
		Date Chemotherapy Started	
		Regional Treatment Modality	
		Date Radiation Started	
		Hormone Therapy	
		Date Hormone Therapy Started	
		Immunotherapy	
Date Immunotherapy Started			
Total Numerator			= steps 11 + 12 +13

Notes:

- 1) March 2015 CP3R release: The LNoSurg measure was introduced.
- 2) September 2015 CP3R release: There were no changes to the measure.
- 3) November 2015 CP3R Updates:
 - a. Allow for manual exclusion with censor 80.
- 4) August 2016 Update:
 - a. NAACCRv16, add c or p prefix to TNM.



LNoSurg: Lung Measure - Surgery is not the first course of treatment for cN2, M0 cases

