

# Is **multidisciplinary team approach** **mandatory** for treatment decision?

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# Is **multidisciplinary team approach** **mandatory** for treatment decision? *- role of pulmonologist*

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# Today



- What is MDT?
- The benefits of MDT approach
- Real case discussed at MDT
- Role of pulmonologist at MDT

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# ChatGPT

Is multidisciplinary team approach mandatory for treatment decision?

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The **multidisciplinary team (MDT) approach** is not always *mandatory* for treatment decision-making, but in many clinical settings—especially in complex or serious conditions like cancer, stroke, or rare diseases—it is considered the **best practice** and often **strongly recommended**.

## Here's a breakdown:

### ✅ When it's commonly used or expected:

- **Cancer care:** MDTs are standard and sometimes required by guidelines or accreditation bodies.
- **Complex surgical cases:** Especially involving multiple organ systems.
- **Chronic diseases:** Like diabetes or heart failure, where multiple specialties contribute to comprehensive care.
- **Rehabilitation or palliative care:** To address medical, psychological, and social needs.
- **Pediatrics or geriatrics:** Where holistic care is important.

### ⚠️ Is it legally mandatory?

- Usually **not legally required**, unless specified by institutional policy or national guidelines.
- But **failing to involve an MDT** when it's the standard of care **can raise ethical or legal concerns**, especially if a poor outcome occurs.

Is multidisciplinary team approach mandatory for treatment decision?

## 💡 Why is MDT valuable?

- Encourages collaboration between specialists.
- Ensures that all aspects of a patient's condition are considered.
- Improves accuracy of diagnosis and appropriateness of treatment plans.
- Often leads to better patient outcomes and satisfaction.

## Summary:

**Not always mandatory, but often essential.**

In high-stakes or complex cases, treatment decisions are ideally made through a multidisciplinary team approach to ensure safe, comprehensive, and patient-centered care.

# What is MDT?

- **MDT (Multidisciplinary Team)** in lung cancer
- is a group of healthcare professionals from different specialties who collaborate to plan and deliver the **best possible care** for a patient with lung cancer.
- Purpose of the MDT
  - Accurate diagnosis and staging
  - Individualized treatment planning
  - Shared decision-making
  - Coordinated, patient-centered care
  - Improved outcomes and quality of life
- **Confirmation of the benefits of MDT care is critical to establish the need for MDT care!**

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- **Confirmation of the benefits of MDT care is critical to establish the need for MDT care!**

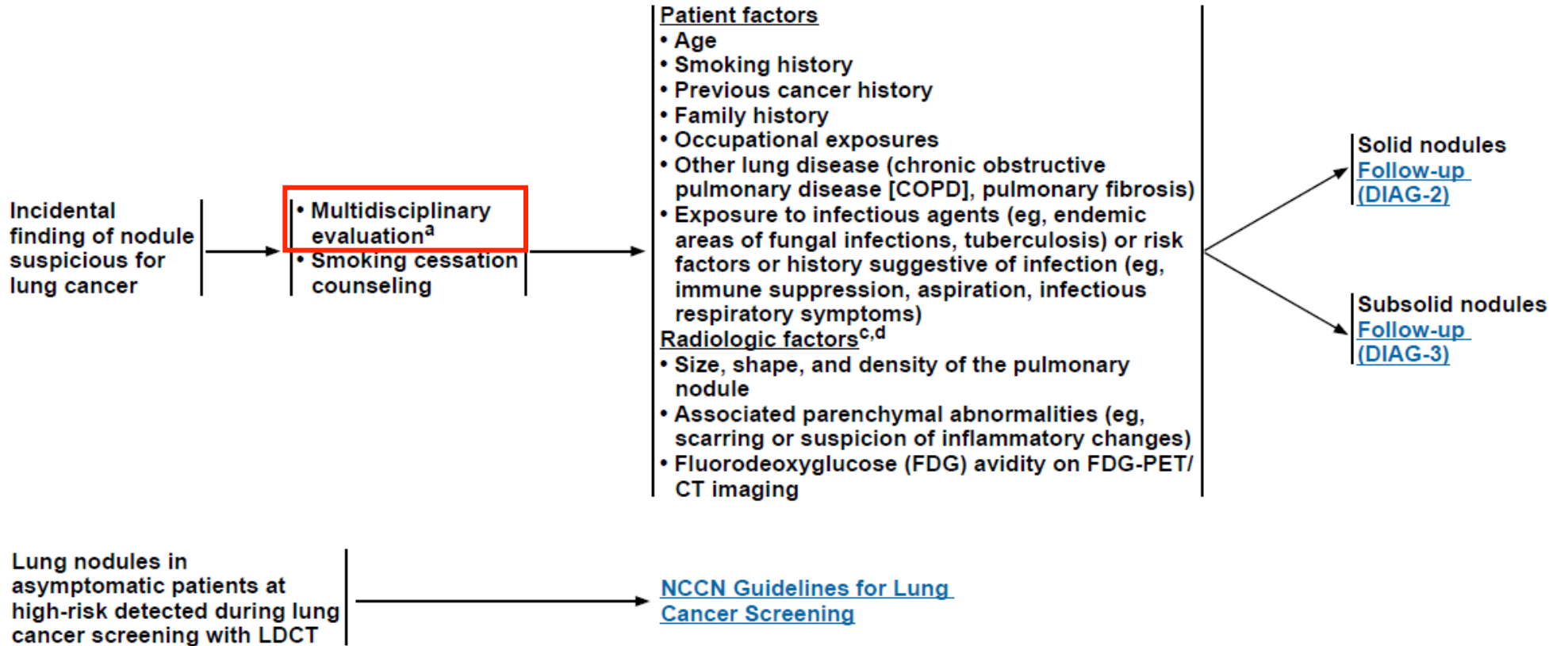
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## CLINICAL PRESENTATION

## RISK ASSESSMENT<sup>b</sup>



<sup>a</sup> Multidisciplinary evaluation including thoracic surgeons, thoracic radiologists, and pulmonologists to determine the likelihood of a cancer diagnosis and the optimal diagnostic or follow-up strategy.

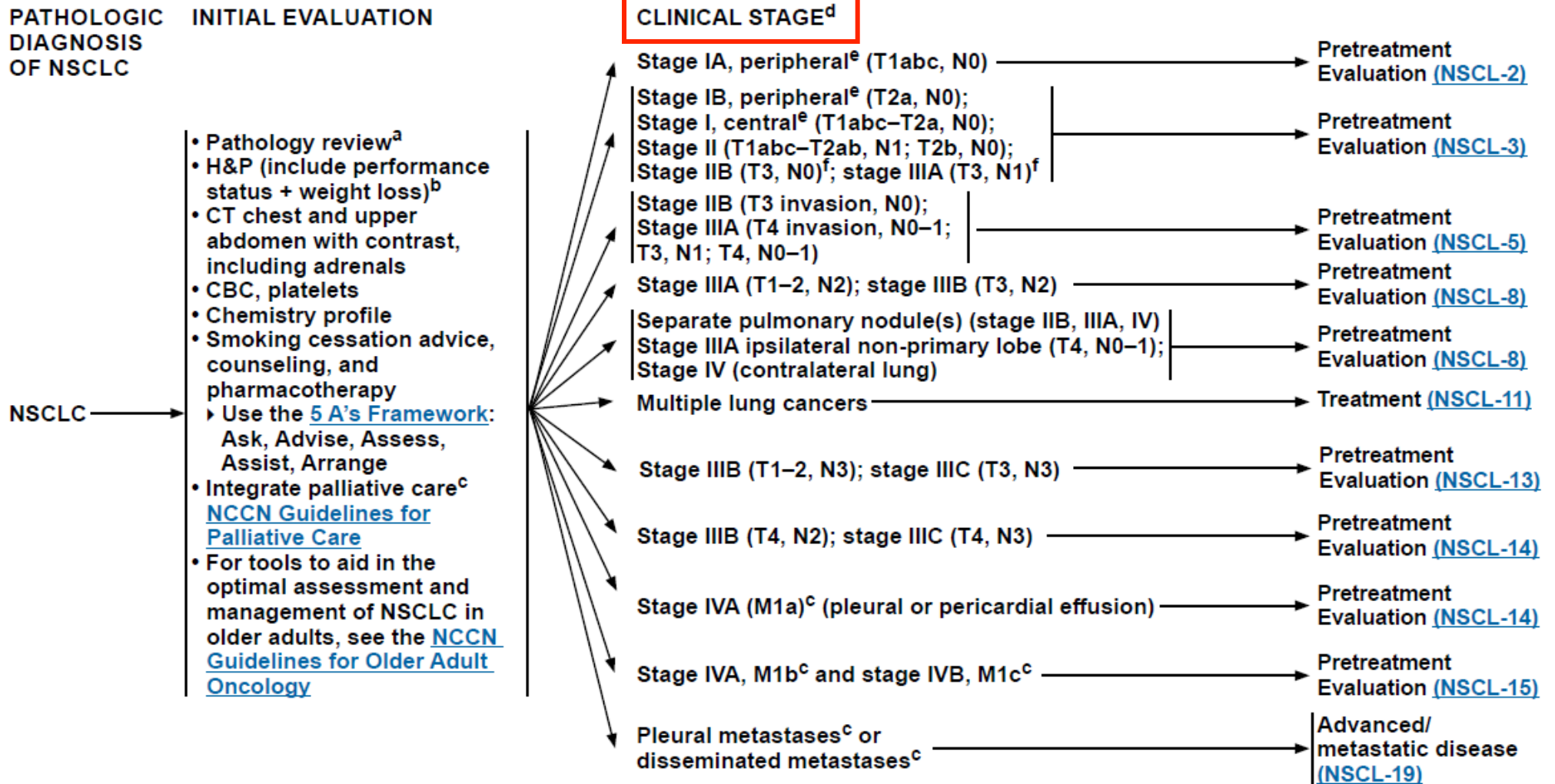
<sup>b</sup> Risk calculators can be used to quantify individual patient and radiologic factors but do not replace evaluation by a multidisciplinary diagnostic team with substantial experience in the diagnosis of lung cancer.

<sup>c</sup> [Principles of Diagnostic Evaluation \(DIAG-A 1 of 3\)](#).

<sup>d</sup> The most important radiologic factor is change or stability compared with a previous imaging study.

# NCCN guideline 2025 version 3

# NSCLC



<sup>a</sup> [Principles of Pathologic Review \(NSCL-A\)](#).

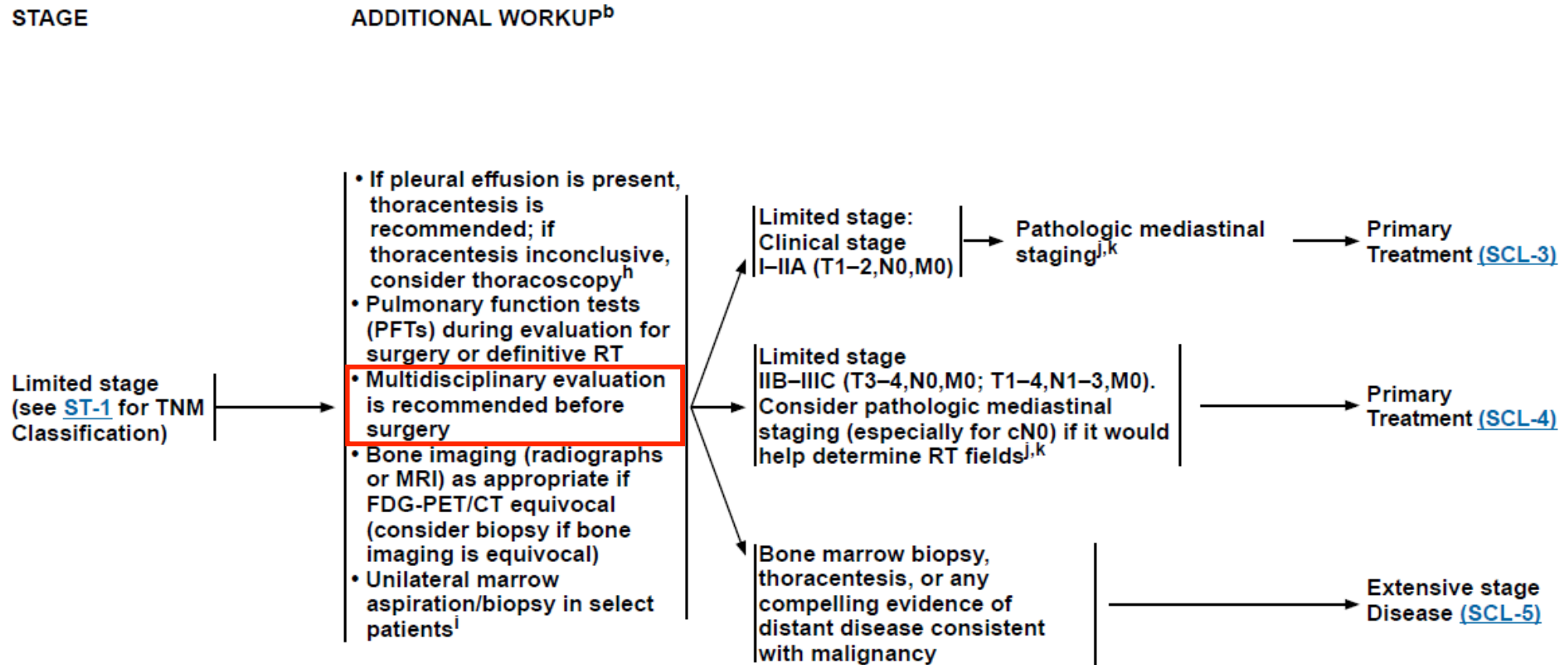
<sup>b</sup> Enhanced frailty or geriatric assessments may predict complications better following treatment modalities, particularly surgery. A preferred frailty assessment system has not been established.

<sup>c</sup> Temel JS, et al. N Engl J Med 2010;363:733-742.

<sup>d</sup> For patients where more than one treatment modality (surgery, radiation therapy [RT], or systemic therapy) is usually considered, a multidisciplinary evaluation should be performed.

<sup>e</sup> Based on the CT of the chest: Peripheral = outer third of lung; Central = inner two thirds of lung.

<sup>f</sup> T3, N0 related to size or satellite nodules.



<sup>b</sup> Workup of SCLC should be expedited, with studies done in parallel whenever possible.

<sup>h</sup> While most pleural effusions in patients with lung cancer are due to tumor, there are a few patients in whom multiple cytopathologic examinations of pleural fluid are negative for tumor and fluid is non-bloody and not an exudate. When these elements and clinical judgment dictate that the effusion is not related to the tumor, the effusion should be excluded as a staging element. Pericardial effusion is classified using the same criteria.

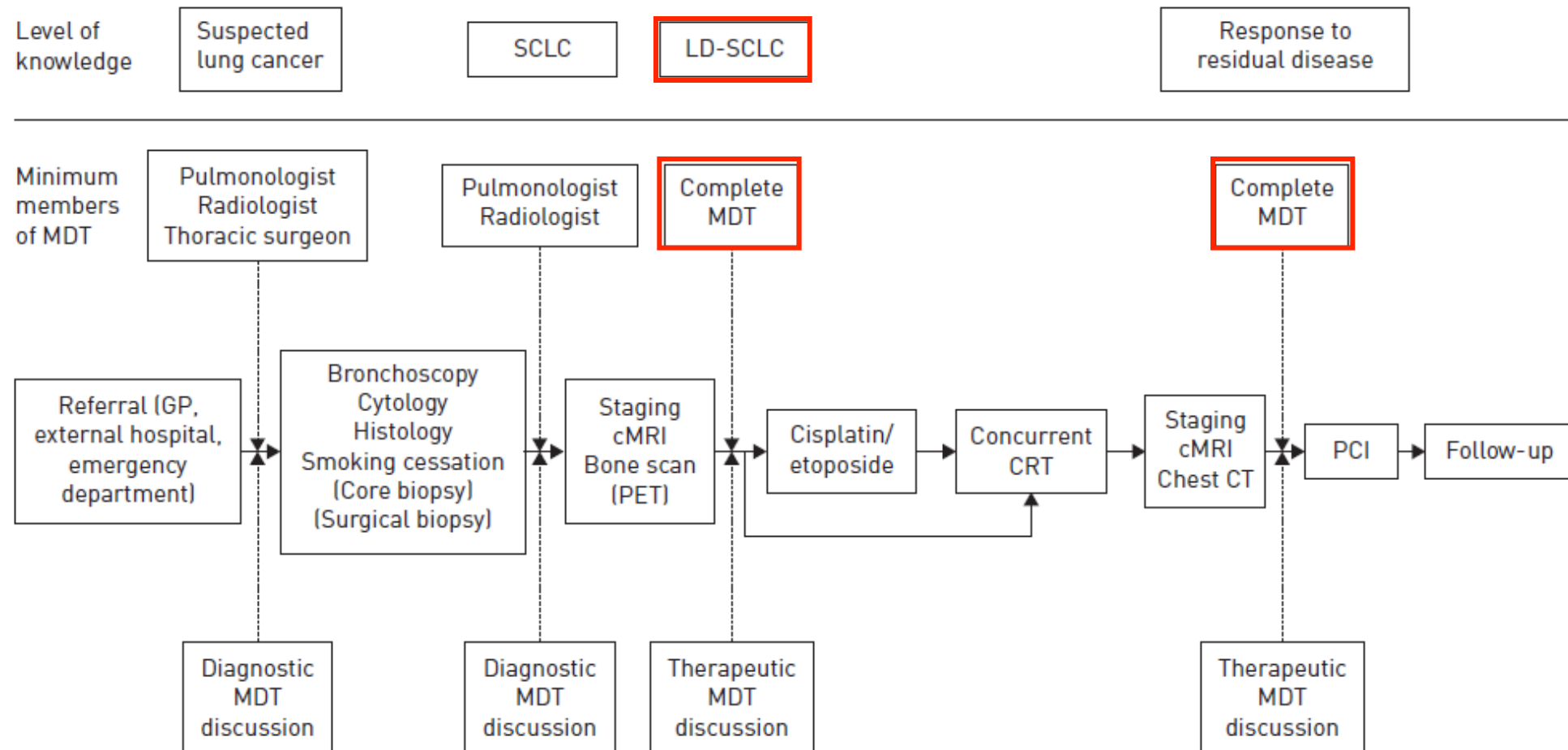
<sup>i</sup> Selection criteria include: nucleated red blood cells (RBCs) on peripheral blood smear, neutropenia, or thrombocytopenia suggestive of bone marrow infiltration.

<sup>j</sup> [Principles of Surgical Resection \(SCL-C\)](#).

<sup>k</sup> Mediastinal staging procedures include mediastinoscopy, mediastinotomy, endobronchial or esophageal ultrasound-guided biopsy, and video-assisted thoracoscopy. If endoscopic lymph node biopsy is positive, additional mediastinal staging is not required.

# MDT in SCLC patients

\* Basic steps in the management of small cell lung cancer (SCLC).



# Discrepancies across MDT care

- To evaluate the consistency of lung cancer case assessments across MDT, Denmark. (2021 to 2022)
- 60 fictitious case stories** with images > distributed to the **Four** lung cancer MDT conferences
- We compared the conclusions on assigned TNM stage and proposed treatment intent (curability)

T-categories	Kappa (95% CI)
T0	0.49
T1	0.57
T2	0.44
T3	0.40
T4	0.71
Tx	0.02
<b>Kappa combined for T-category</b>	<b>0.54</b> (0.44–0.65)
N-categories	Kappa (95% CI)
N0	0.91
N1	0.60
N2	0.69
N3	0.84
Nx	-0.01
<b>Kappa combined for N-category</b>	<b>0.79</b> (0.69–0.88)
M-categories	Kappa (95% CI)
M0	0.81
M1a	0.60
M1b	0.59
M1c	0.90
Mx	0.04
<b>Kappa combined for M-category</b>	<b>0.75</b> (0.63–0.87)

**Table 3** Assessments of TNM single stages and stage groups

TNM single stages	Kappa (95% CI)
IA	0.61
IB	0.54
IIA*	–*
IIB	0.38
IIIA	0.43
IIIB	0.60
IIIC	0.25
IV	0.88
x	0.05
<b>Kappa combined</b>	<b>0.62</b> (0.52–0.71)
TNM stage groups	Kappa (95% CI)
Stage I+II	0.92
Stage III	0.75
Stage IV	0.88
Stage x	0.05
<b>Kappa combined</b>	<b>0.82</b> (0.72–0.92)

\*) too few cases assessed to this stage

# Impact of MDT discrepancies on lung cancer outcome

- To evaluate the consistency of lung cancer case assessments across MDT, Denmark. (2021 to 2022)
- **60 fictitious case stories** with images > distributed to the **Four** lung cancer MDT conferences
- We compared the conclusions on assigned TNM stage and proposed treatment intent

**Table 7** The relationship between agreement on Stage Group versus full agreement by all MDT sites on curability ( $P < 0.001$ )

All MDTs agree on Stage Group	All MDTs agree on curability		
	No	Yes	Total
No	9	2	11
Yes	7	42	49
Total	<b>16</b>	44	60

- 16 cases: MDT disagreed on treatment intent
- 11/16 cases → MDT disagreed stage (stage III)
- two cases  
→ MDT agreed on the stage, but disagreed on treatment intent

# Survival Outcomes and MDT

- Stony Brook Cancer Center Registry
- lung cancer diagnosed between 2002 and 2016
- Multidisciplinary vs. traditional care (1,956 vs. 2,315)
- 1-, 3-, 5-, and 10-year survival outcomes
- **LCEC** Multidisciplinary Care
  - multidisciplinary program
  - “Lung Cancer Evaluation Center (LCEC)”
  - The LCEC patients were defined as those who had, at a minimum, one clinical encounter with the MDT physicians and case presentation at the tumor board

Characteristic	LCEC (n = 1956)	Non-LCEC (n = 2315)	P Value
Age at diagnosis, y	67.1 ± 11.0	67.1 ± 11.7	.85
Male gender, %	46.0	47.7	.25
Race, %			.73
Asian	1.0	0.7	
Black	4.2	4.5	
White	93.4	93.6	
Other	1.4	1.3	
Histologic type, %			<.001
Adenocarcinoma	42.9	35.2	
Squamous cell	19.2	11.4	
Small cell	7.6	14.5	
Other	6.6	4.1	
Unavailable	18.7	34.8	
Stage, %			<.001
I	40.3	14.0	
II	10.2	5.7	
III	25.8	20.0	
IV	23.7	60.3	
Treatment			
Surgery, %	39.8	15.8	<.001
Radiation, %	46.9	50.7	.01
Chemotherapy, %	42.5	50.4	<.001

# Survival Outcomes and MDT

**Table 3** Overall Survival Rates at 1-, 3-, 5-, and 10-Years for All Cases and for a Subset of Propensity-matched Cases<sup>a</sup>

Survival Duration	Surviving, %		
	LCEC	Non-LCEC	P Value
All cases			
1-y	72.6	44.8	<.001
3-y	43.6	16.9	<.001
5-y	31.7	9.1	<.001
10-y	14.5	4.4	<.001
Propensity-matched cases <sup>a</sup>			
1-y	76.5	69.9	.003
3-y	47.1	39.4	.002
5-y	33.6	23.0	<.001
10-y	14.3	9.7	.121

\* Improved survival benefit from usage of an MDT model vs. a traditional care model in the treatment of lung cancer.

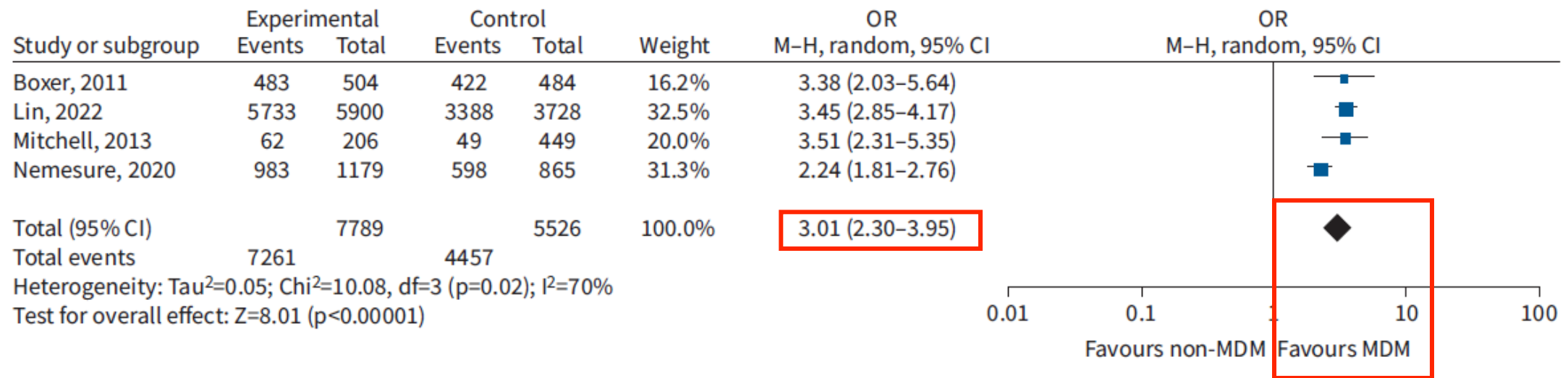
**Table 4** Five-year Cox Proportional Hazard Models for All Cases and a Subset of Propensity-matched Cases<sup>a</sup>

Factor	HR	95% CI
All cases		
Group, LCEC patient	0.64	0.57-0.73
Age at diagnosis	1.00	1.00-1.00
Male gender	1.32	1.18-1.47
Marital status, married	0.83	0.74-0.92
History of alcohol consumption	0.92	0.83-1.03
History of smoking	1.27	1.03-1.60
History of hypertension	0.98	0.88-1.11
History of diabetes	1.20	1.02-1.42
Family history of cancer	1.03	0.97-1.09
Stage at diagnosis	1.66	1.58-1.76
Propensity-matched cases <sup>a</sup>		
Group, LCEC patient	0.65	0.54-0.77
Age at diagnosis	1.00	1.00-1.00
Male gender	1.29	1.10-1.51
Marital status, married	0.84	0.72-0.98
History of alcohol consumption	0.84	0.72-0.98
History of smoking	1.38	1.02-1.86
History of hypertension	0.97	0.82-1.15
History of diabetes	1.19	0.95-1.49
Family history of cancer	1.02	0.94-1.11
Stage at diagnosis	1.68	1.57-1.80

# Multidisciplinary meeting (MDM) review in NSCLC

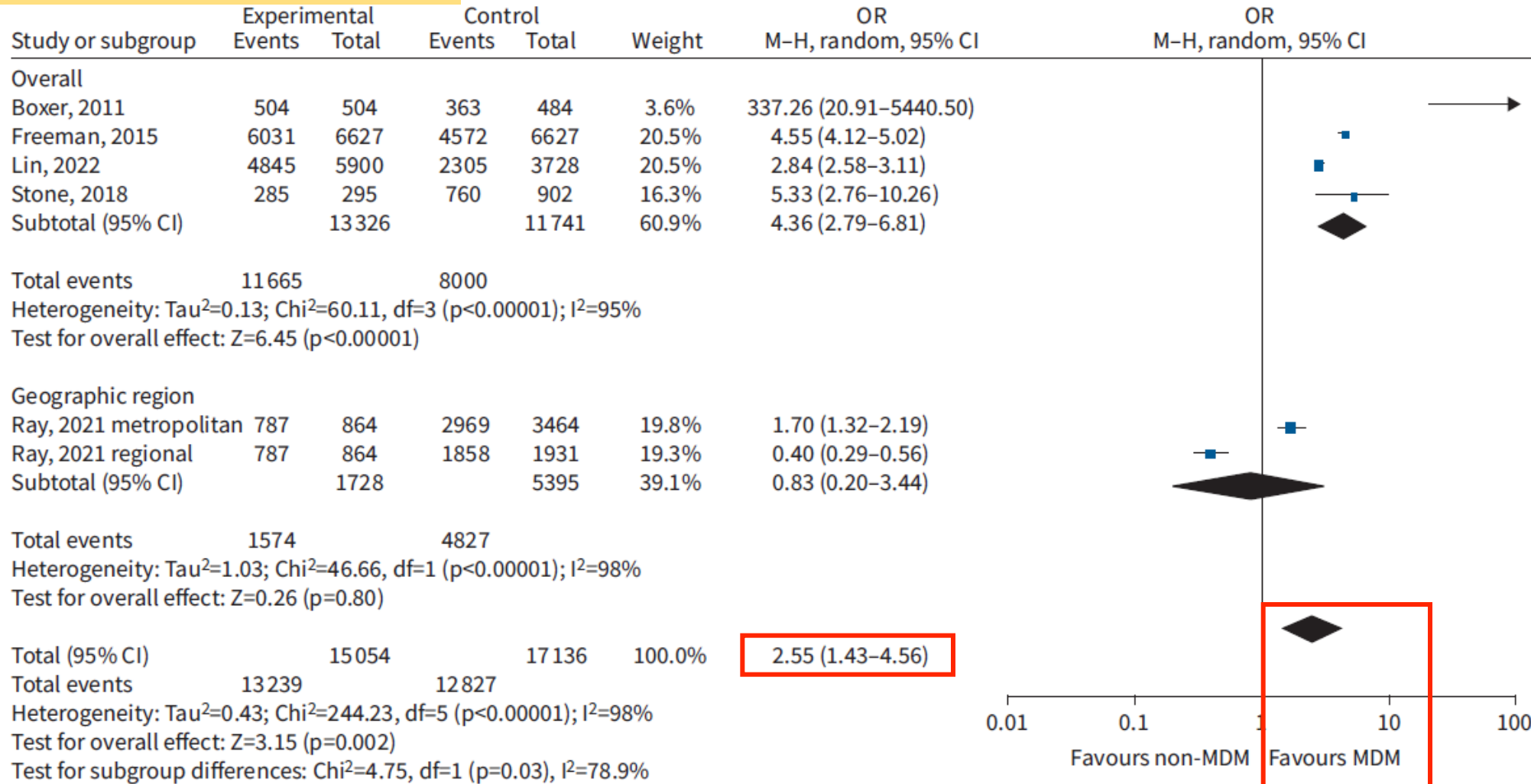
- Systematic review/meta-analysis to explore literature evidence of clinical impacts of MDM exposure.
- RCTs and observational cohort studies including adults with NSCLC, searched on 31 May 2021.
- MDM review *vs.* no MDM
- 2947 citations were identified, and 20 studies were included

## a) Tissue confirmation of diagnosis



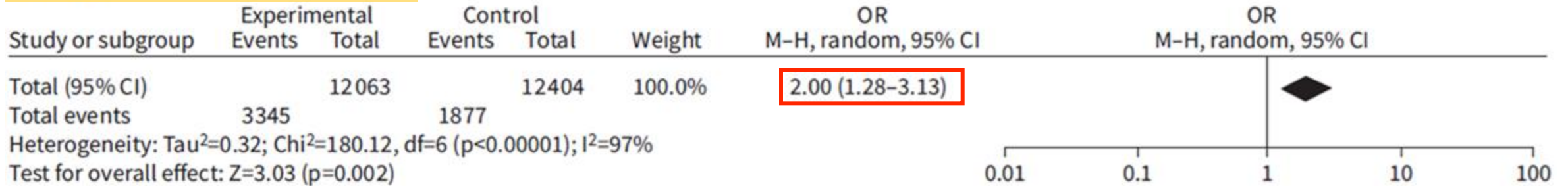
# Multidisciplinary meeting review in NSCLC

## b) Clinical staging

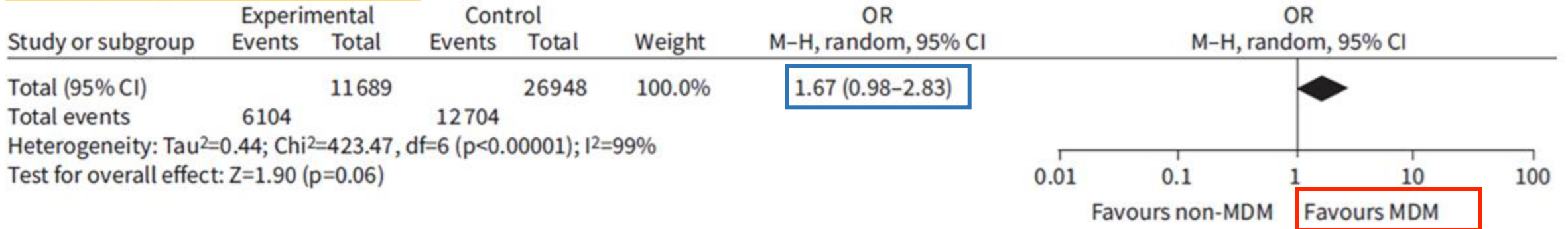


# Multidisciplinary meeting review in NSCLC

## a) Surgery

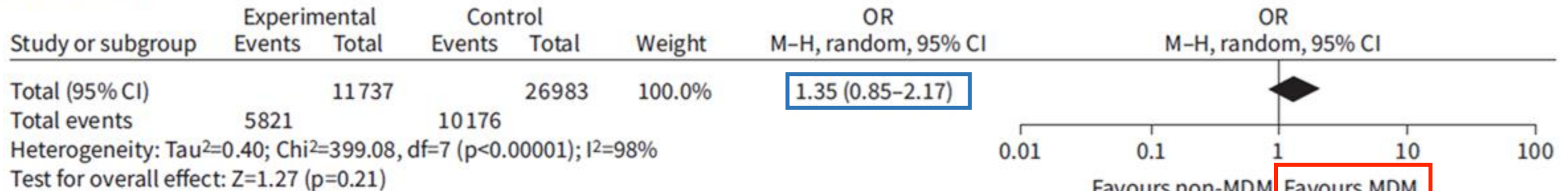


## c) Chemotherapy

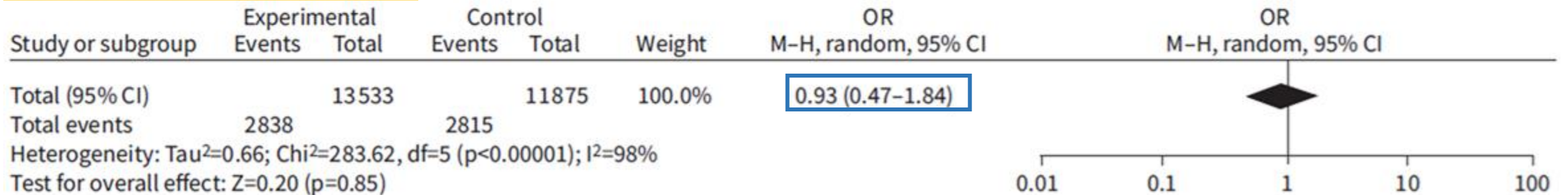


# Multidisciplinary meeting review in NSCLC

## b) Radiotherapy



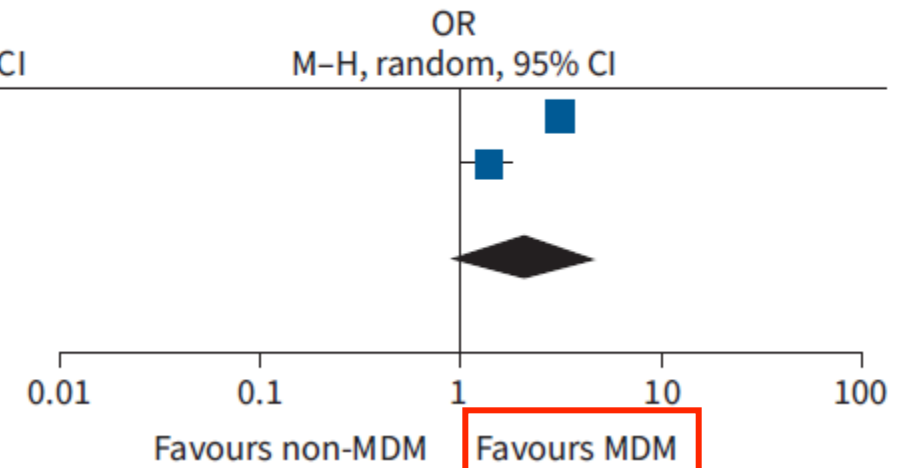
## d) Palliative care



# Multidisciplinary meeting review in NSCLC

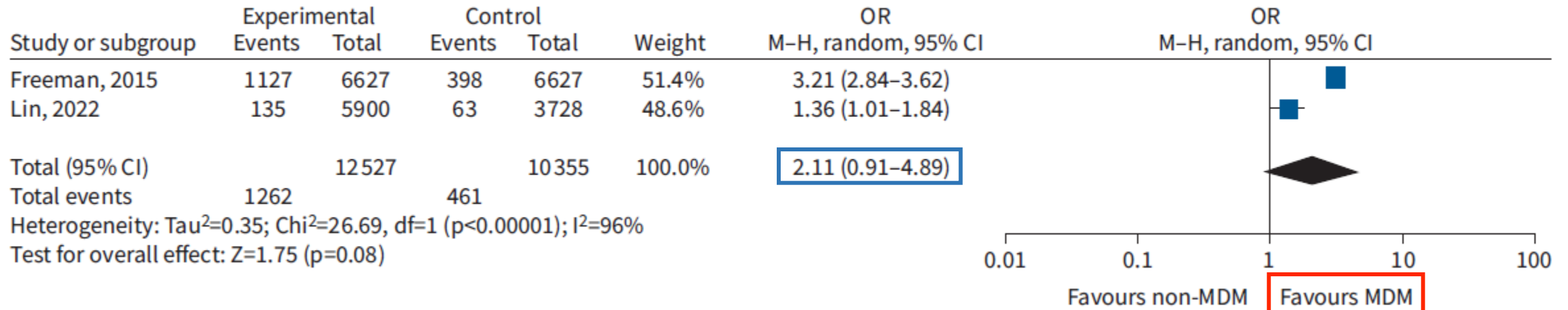
## c) Clinical trial enrolment

Study or subgroup	Experimental		Control		Weight	OR M-H, random, 95% CI
	Events	Total	Events	Total		
Freeman, 2015	1127	6627	398	6627	51.4%	3.21 (2.84–3.62)
Lin, 2022	135	5900	63	3728	48.6%	1.36 (1.01–1.84)
Total (95% CI)		12527		10355	100.0%	<b>2.11 (0.91–4.89)</b>
Total events	1262		461			
Heterogeneity: $\tau^2=0.35$ ; $\chi^2=26.69$ , $df=1$ ( $p<0.00001$ ); $I^2=96\%$						
Test for overall effect: $Z=1.75$ ( $p=0.08$ )						

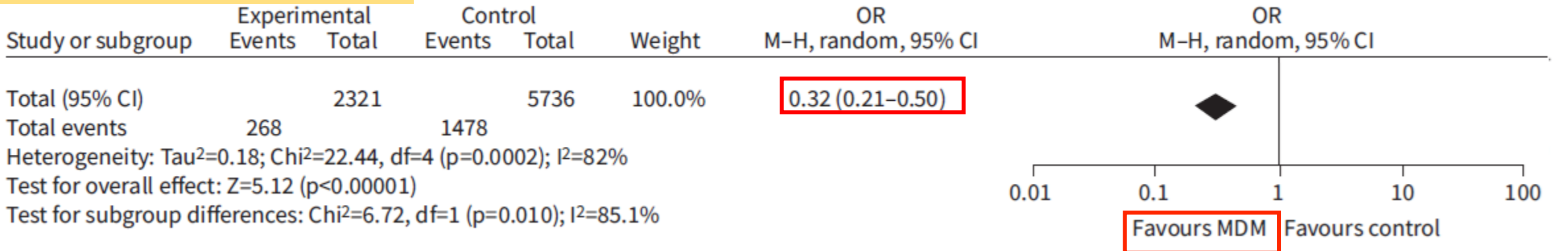


# Multidisciplinary meeting review in NSCLC

## c) Clinical trial enrolment

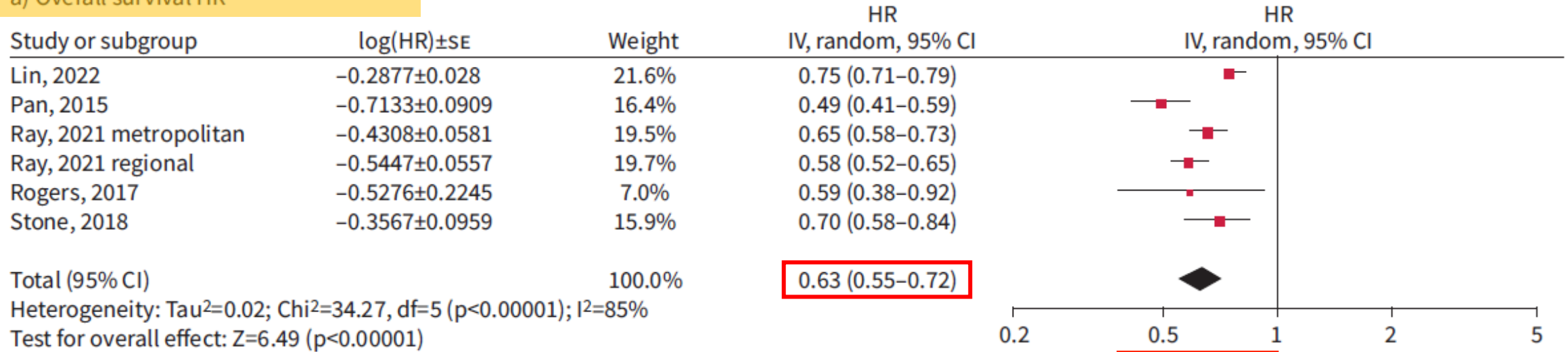


## e) No active treatment

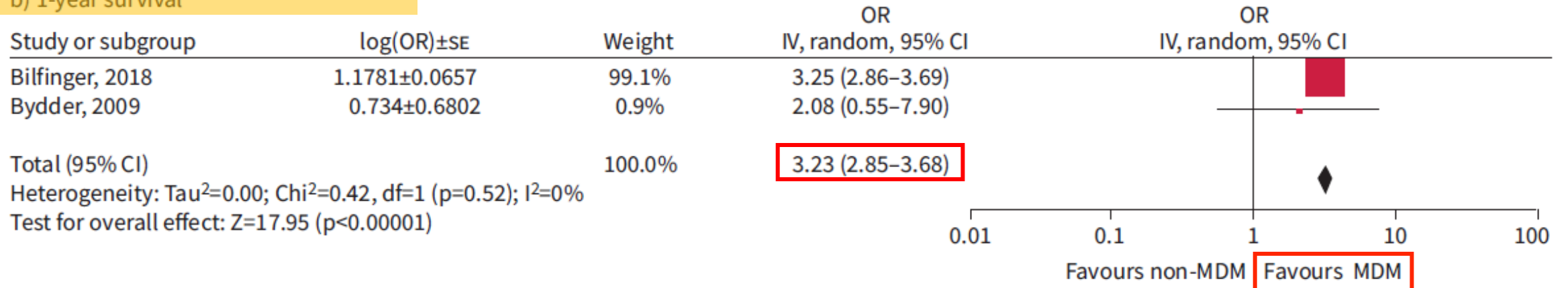


# Multidisciplinary meeting review in NSCLC

## a) Overall survival HR



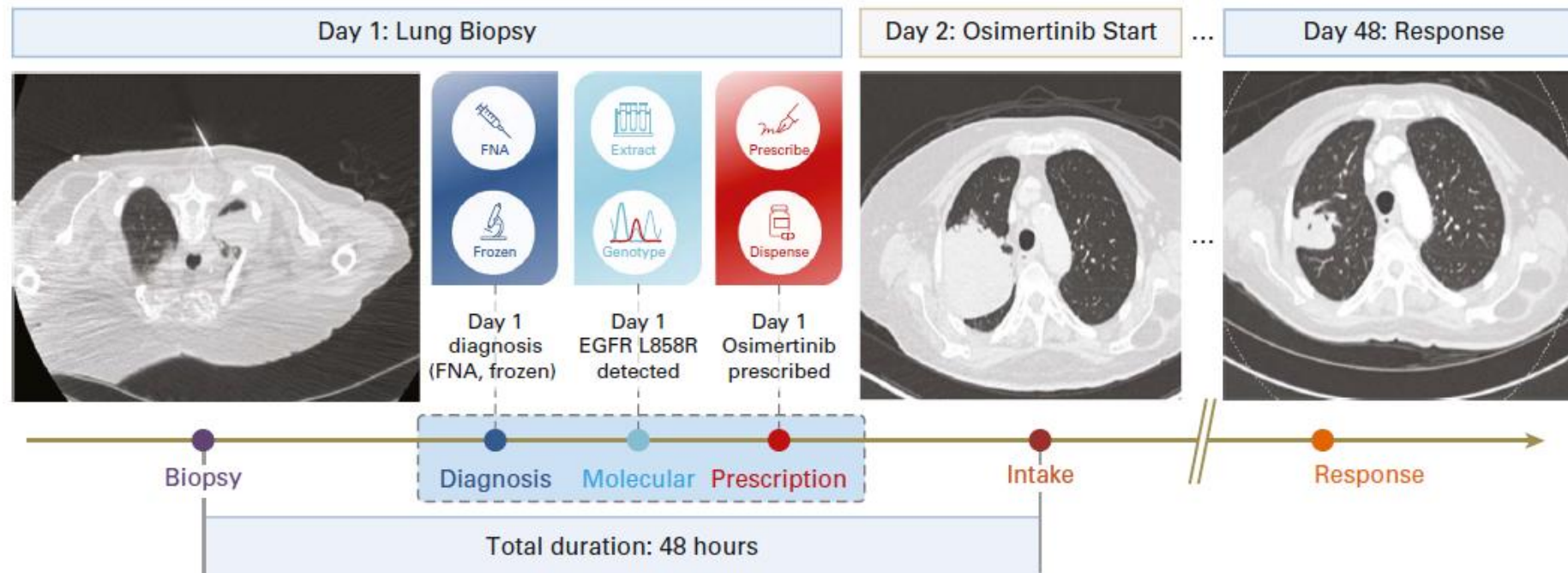
## b) 1-year survival



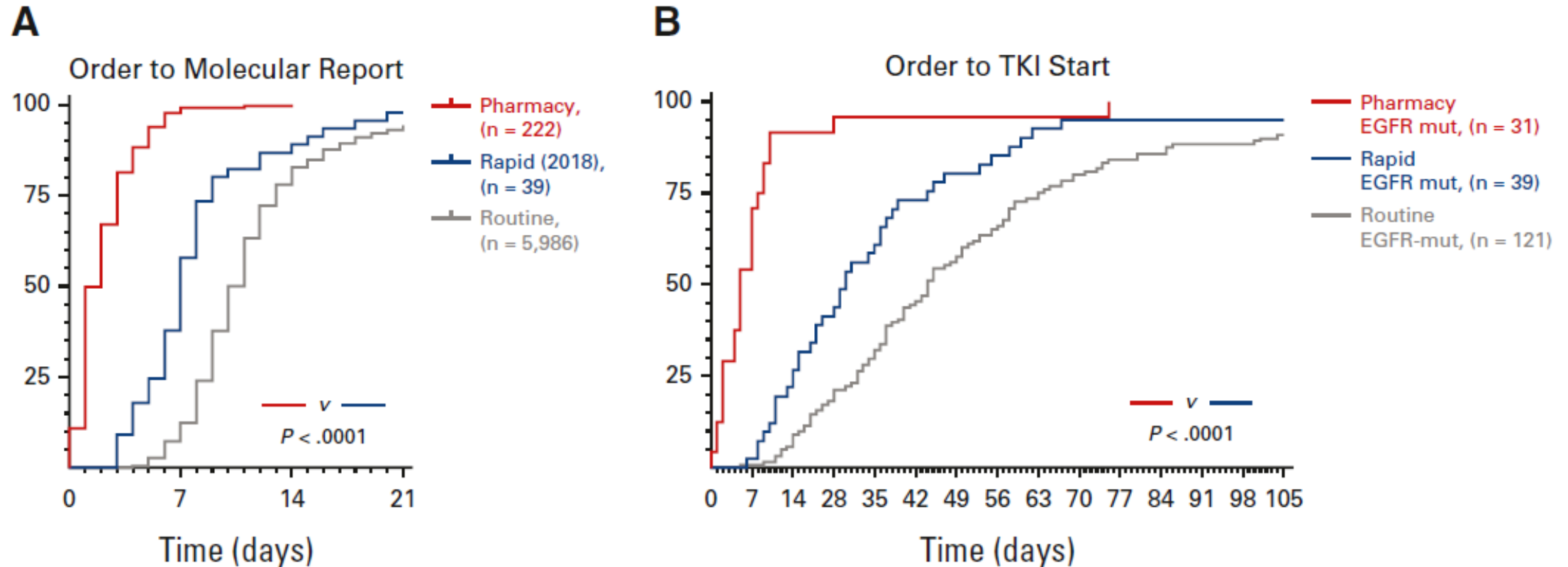
# Expanding MDT in Pre-diagnostic Care of Lung Cancer

- ***Integrated Radiology, Pathology, and Pharmacy Program*** to minimize delays in initiating osimertinib.
- Parallel workflows (interventional radiology, surgical pathology, and early pharmacy engagement)
- Between January 2020 and December 2021, 222 patients participated in the intervention.
- The median turnaround time from biopsy to EGFR results was 1 workday

Boston, MA.



# Expanding MDT in Pre-diagnostic Care of Lung Cancer



	integrated pharmacy	rapid EGFR	routine NGS using FFPE
EGFR results	1 day	7 days	11 days
median time to treatment	5 days	23 days	37 days

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- N2 disease
- Double primary vs. metastasis
- M1 lesion

# Today

## Session II. Recent advances in Lung Cancer Treatment

4. The evolving combination treatment landscape of advanced EGFR-mutant NSCLC - 김수한(부산의대 내과)

5. Optimal treatment options in unresectable stage III NSCLC - 김인애(건국의대 내과)

6. Updated treatment strategies in SCLC - 박승용(전북의대 내과)

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what is role of pulmonologist at MDT in the treatment of lung cancer?

The **pulmonologist** plays a *central role* in the **multidisciplinary team (MDT)** for lung cancer care, especially in the **diagnosis, staging, and management planning**. Here's a clear breakdown of their key responsibilities:

## 1. Diagnostic Evaluation

## 2. Staging

## 3. MDT Collaboration

- Helps determine if the patient is surgical candidate, needs CTx or palliative care
- Advises on fitness for invasive procedures and pulmonary function

## 4. Pulmonary Optimization & Support

## 5. Patient Counseling

- Manages underlying lung disease to optimize patient for surgery or treatment.
- Provides pre-op pulmonary evaluation
- Monitors and treats complications like pneumonitis or airway obstruction.

# Today

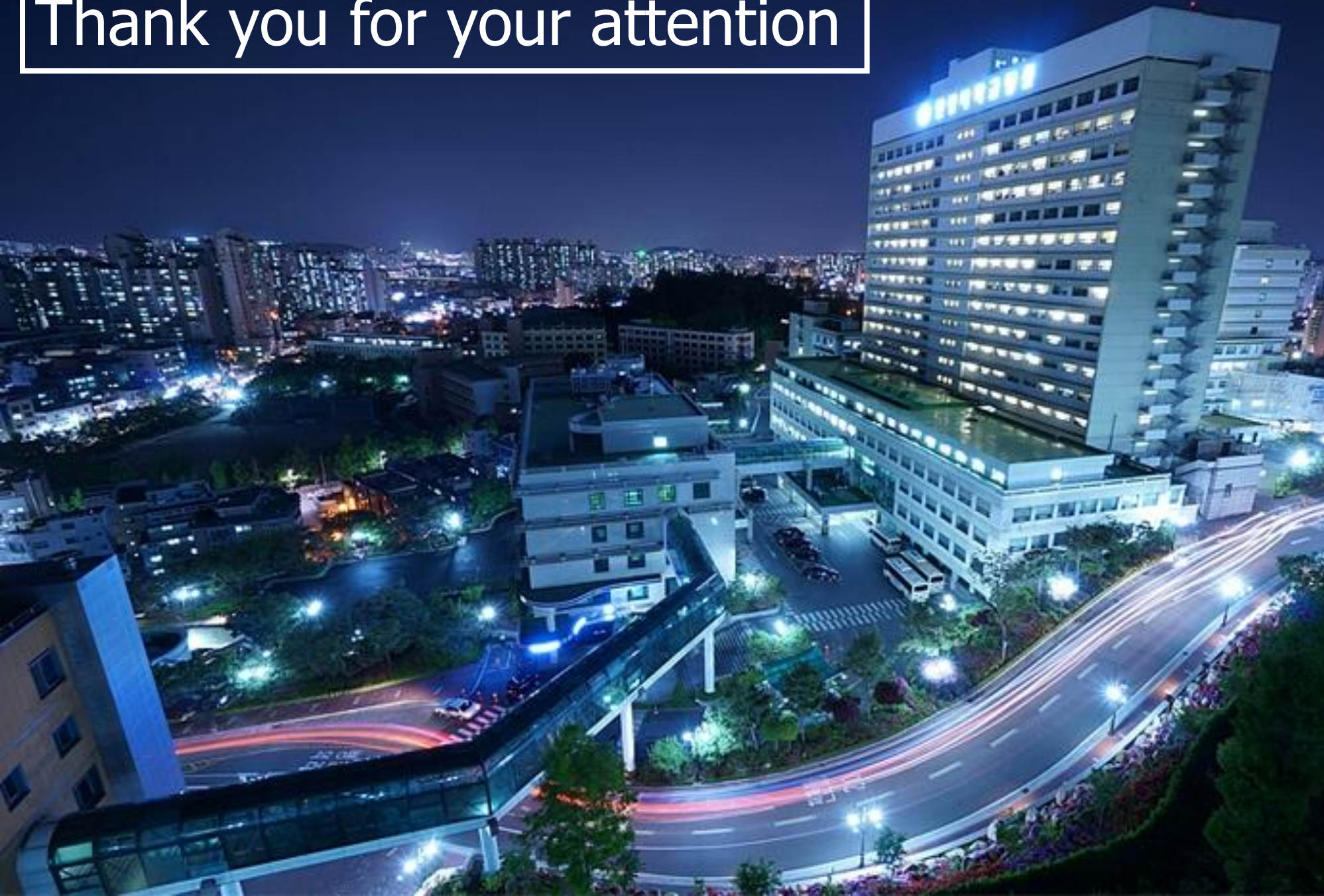


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  - MDT among different HC professionals
  - MDT with interventional pulmonologist
  - Role of pulmonologist in MDT

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