



Lung cancer data in the National Cancer Data Repository, Hospital Episode Statistics and National Lung Cancer Audit datasets

Sharma P. Riaz¹, Karen M. Linklater¹, Marie Horton¹,
Michael D. Peake^{2,3}, Henrik Møller¹, Margreet Lüchtenborg¹

¹Thames Cancer Registry, King's College London School of Medicine

²National Cancer Intelligence Network, London, United Kingdom

³Department of Respiratory Medicine, Glenfield Hospital, Leicester

Aim

Assess the case ascertainment and comparability of the lung cancer data on histology, year of surgery and type of surgery, chemotherapy and radiotherapy between the NCDR, HES and NLCA datasets.



National Cancer Data Repository

- Holds all cancer registrations in England
- Brings together regional data from eight cancer registries
- Linked and quality assured during the building process
- Data consists of tumour level records from each registry



Hospital Episode Statistics

- Data warehouse containing details of all inpatient and day case admissions to NHS hospitals in England
- Information on treatment episodes, mainly surgery

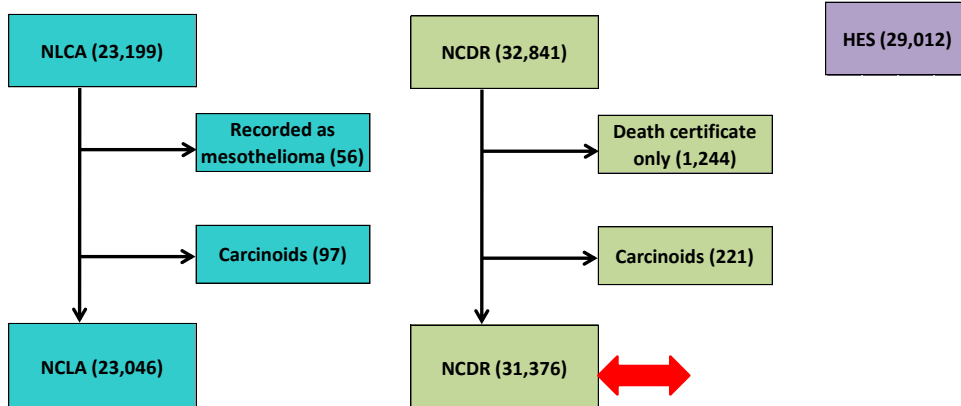


National Lung Cancer Audit

- Data relating to England
- In 2008 all but three English Trusts submitted data
- Only the first tumour is recorded

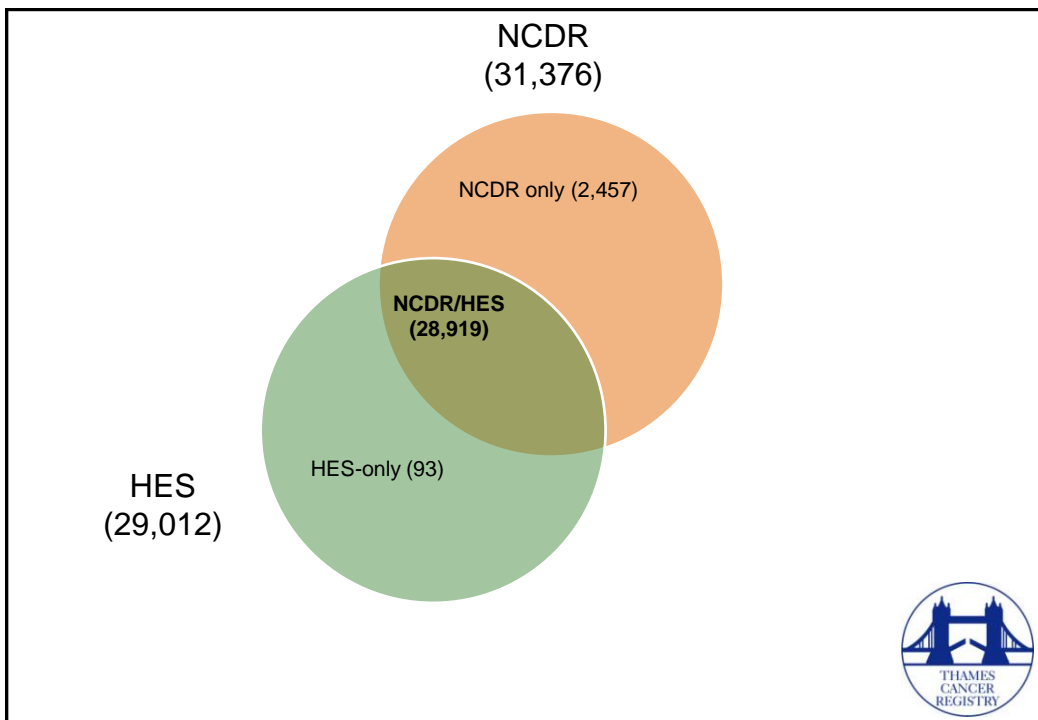


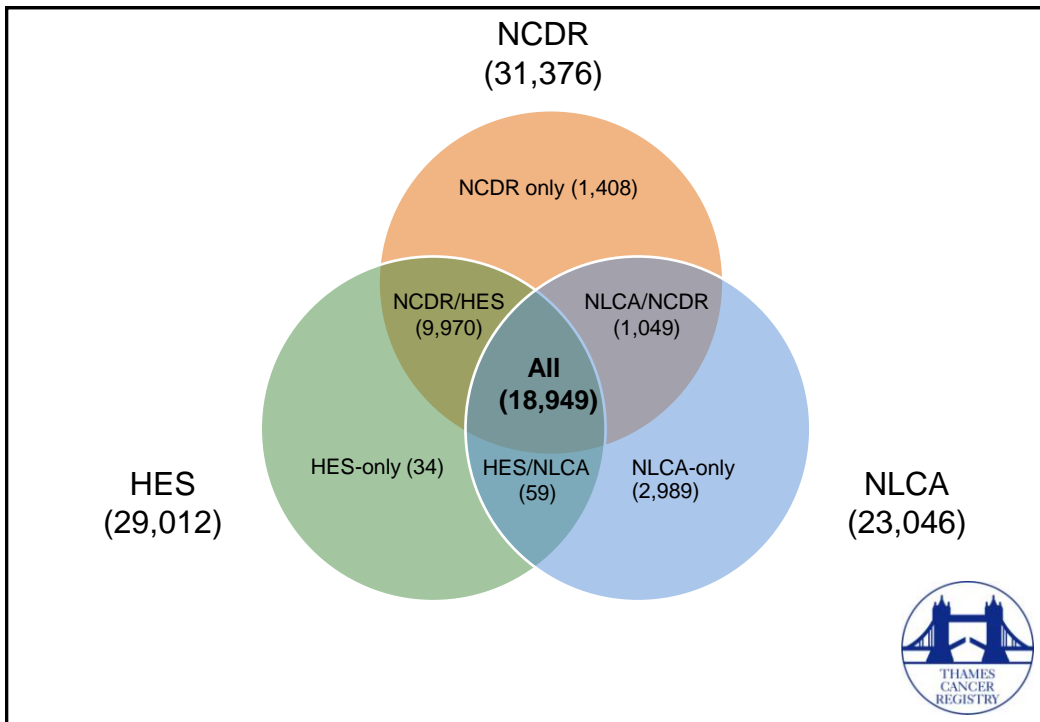
Patients included in analysis



Method

- Patients diagnosed with a lung cancer in 2008
- Three datasets were linked
- Venn diagram
- Cross tabulations on histology, year of surgery and type of surgery, chemotherapy and radiotherapy between the linked NCDR, HES and NLCA





NLCA-only patients

- 2,581 had a record in the NCDR but excluded from the 2008 data used for this project
- 408 were not found in the NCDR



Data comparison: histological type

		NCDR			
		Non-small cell		Small cell	
		No.	%	No.	%
NLCA	Non-small cell	16,027	97	511	11
	Small cell	271	3	2,140	89
Total		16,298	100	2,651	100



Data comparison: year of surgery

Year of surgery		HES treatment					
		Not recorded		2008		2009	
		No.	%	No.	%	No.	%
NLCA	Not recorded	16,618	98	271	15	27	19
	2008	301	2	1,594	85	2	1
	2009	15	0	4	0	116	80
Total		16,934	100	1,869	100	145	100



Data comparison: type of surgical procedure

Surgical procedure		HES treatment					
		Not recorded		Partial		Pneumonectomy	
		No.	%	No.	%	No.	%
NLCA	Not recorded	126	40	416	23	50	22
	Mesothelioma	44	14	1	0	3	1
	Partial	142	45	1,356	76	26	11
	Pneumonectomy	5	2	9	1	153	66
Total		317	100	1,782	100	232	100.0



Data comparison: chemotherapy and radiotherapy

		HES treatment			
		No chemotherapy		Chemotherapy	
		No.	%	No.	%
NLCA	No chemotherapy	12,348	93	2,708	48
	Chemotherapy	944	7	2,949	52
Total		13,292	100	5,657	100

		HES treatment			
		No radiotherapy		Radiotherapy	
		No.	%	No.	%
NLCA	No radiotherapy	14,790	82	584	59
	Radiotherapy	3,163	18	412	41
Total		17,953	100	996	100

Conclusion

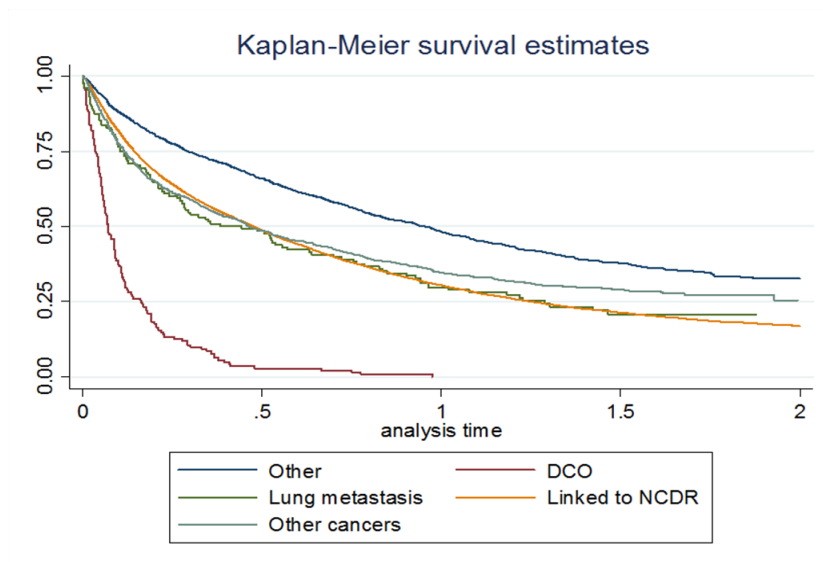
- By combining the NCDR, HES and NCDR we were able to match 18,949 cases
- The three datasets are unique and important in analysis however caution needs to be exercised when comparing these datasets especially when looking at chemotherapy and / or radiotherapy



NLCA-only exclusion reasons

- 541 had a earlier diagnosis year in the NCDR
- 472 had a 2008 diagnosis year but in 2009 NCDR
- 197 excluded on lung morphology or site (e.g. had a carcinoid or mesothelioma in NCDR)
- 130 had lung metastasis as the site in the NCDR
- 920 were registered but at a different primary site
- 175 other valid cancer registration exclusion reasons (e.g. DCOs, not resident in England etc.)

Survival of NLCA-only



Chemo and radiotherapy using registry data

Chemotherapy		NCDR & HES					
		No chemotherapy		Chemotherapy		Missing	
		N	%	N	%	N	%
NLCA	No chemotherapy	9,688	96	2,876	46	2,492	94.93
	Chemotherapy	428	4.23	3,332	53.67	133	5.07
Total		10,116	100	6,208	100	2,625	100

Radiotherapy		NCDR & HES					
		No radiotherapy		Radiotherapy		Missing	
		N	%	N	%	N	%
NLCA	No radiotherapy	9,644	94.08	2,939	53	2,791	89
	Radiotherapy	607	5.92	2,609	47	359	11
Total		10,251	100	5,548	100	3,150	100