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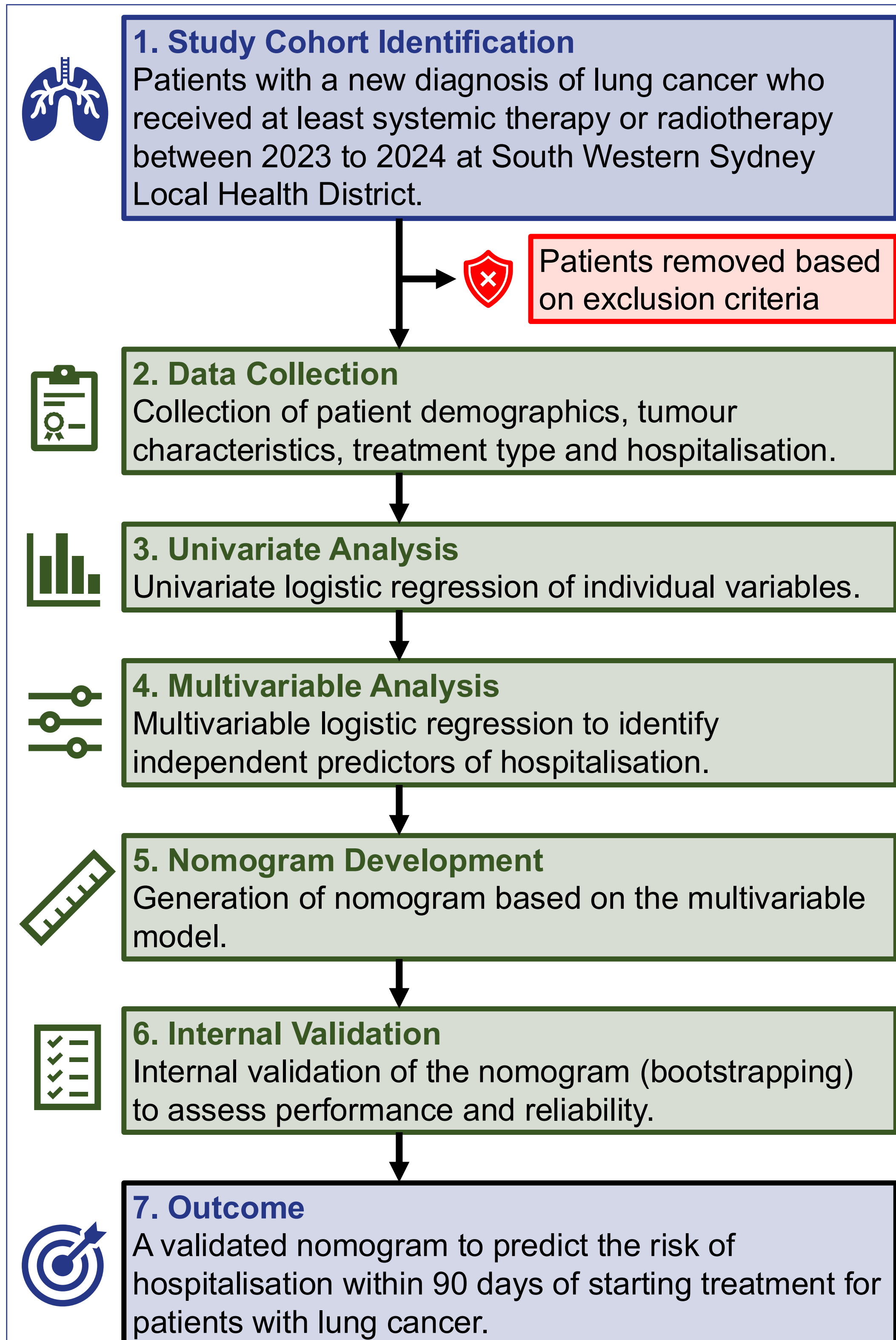
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INTRODUCTION AND AIMS

- Patients with lung cancer have a high prevalence of comorbidities.
- There is no Australian data on factors associated with hospitalisation in patients with lung cancer.
- We aim to identify factors associated with hospitalisation within 90 days of starting treatment.
- We aim to develop a nomogram to predict hospitalisation.

METHODS



DISCUSSION AND CONCLUSION

Discussion

- Charlson Comorbidity Index (CCI), cancer stage and neutrophil count at diagnosis are significant factors associated with hospitalisation in patients with lung cancer.
- These factors uses easily accessible information at diagnosis to calculate a patient's risk of hospitalisation to help guide intensity of treatment or the degree of support required to reduce risk of hospitalisation.

Actionable Take Away Message

- The developed nomogram enables close monitoring and intervention in hopes of reducing hospitalisation.**

Future Direction

- External validation of the nomogram across multiple centres.
- Implement use of the nomogram during initial patient encounter to identify high risk patients for closer monitoring.
- Evaluate whether early identification and closer monitoring result in reduced hospitalisations.

REFERENCES & ACKNOWLEDGEMENTS

- Australian Institute of Health & Welfare. Cancer in Australia 2021, in Cancer Series 2021: Canberra.
- Komici, K., et al., Frailty in Patients With Lung Cancer: A Systematic Review and Meta-Analysis. Chest, 2022. 162(2): p. 485-497.

RESULTS

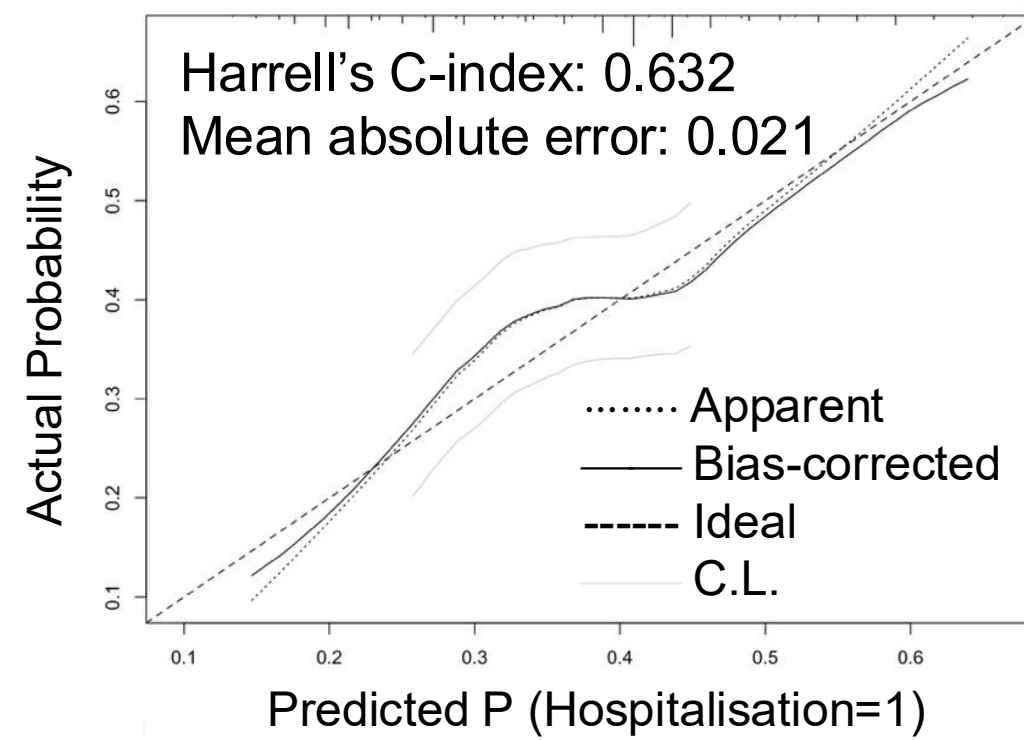
Patient characteristics

Patients	Non-hospitalised Cohort 387 (64.5%)	Hospitalised Cohort 213 (35.5%)
Age		
Mean (SD)	70.9 (10.3)	71.5 (9.7)
Median (range)	71 (32-93)	72(38-92)
Gender		
Male	229 (59.2%)	141 (66.2%)
Female	158 (40.8%)	72 (33.8%)
Social Economic Status (SES)		
SES 1-2	239 (61.8%)	127 (59.6%)
SES 3-4	30 (7.8%)	23 (10.8%)
SES 5-10	118 (30.5%)	63 (29.6%)
Eastern Cooperative Oncology Group (ECOG)		
Unknown	105 (27.1%)	70 (32.9%)
ECOG 0-1	230 (59.4%)	106 (49.8%)
ECOG 2-4	52 (13.4%)	37 (17.4%)
Charlson Comorbidity Index (CCI)		
Mean (SD)	7.15 (2.41)	8.09 (2.21)
Cancer type		
Non-small cell	314 (81.1%)	162 (76.1%)
Small cell	41 (10.6%)	36 (16.9%)
Others	32 (8.3%)	15 (7.0%)
Stage		
Stage I-II	120 (31.0%)	35 (16.4%)
Stage III	91 (23.5%)	43 (20.2%)
Stage IV	176 (45.5%)	135 (63.4%)
Albumin		
Mean (SD)	35.1 (5.2)	33.1 (5.9)
Haemoglobin		
Mean (SD)	130.6 (18.1)	130.3 (18.3)
Neutrophils		
Mean (SD)	6.3 (3.2)	7.0 (4.3)
Lymphocytes		
Mean (SD)	1.8 (2.1)	2.1 (4.4)
CRP		
Mean (SD)	27.5 (37.5)	41.3 (64)
Intent of treatment		
Cure	191 (49.4%)	68 (31.9%)
Palliative	196 (50.6%)	145 (68.1%)
Died in 90 Days		
No	380 (98.2%)	160 (75.1%)
Yes	7 (1.8%)	53 (24.9%)

Univariate and Multivariable Analysis

Variable	Univariate Analysis		Multivariable Analysis	
	HR (95% CI)	P value	HR (95% CI)	P value
Charlson Comorbidity Index (CCI)	1.18 (1.10 - 1.27)	<0.001	1.11 (1.02 - 1.22)	<0.001
Cancer Stage		<0.001		0.010
Stage I-II vs Stage III	1.62 (0.96 - 2.74)		1.74 (0.98 - 3.13)	
Stage I-II vs Stage IV	2.63 (1.71 - 4.12)		2.10 (1.25 - 3.62)	
Albumin at diagnosis (Low vs Normal range)	0.49 (0.32 - 0.76)	0.002		
Neutrophils at diagnosis (Normal vs Elevated range)	2.03 (1.35 - 3.05)	<0.001	1.86 (1.22 - 2.81)	0.004
Intent of treatment (Curative vs Palliative)	2.08 (1.47 - 2.96)	<0.001		
Surgery (With vs Without)	0.14 (0.02 - 0.49)	<0.001		

Internal Validation



Reasons for hospitalisation

Reason for hospitalisation	
Cancer progression	90 (42.3%)
Systemic therapy side effect	45 (21.1%)
Radiotherapy side effect	16 (7.5%)
Surgery complication	1 (0.5%)
Others - Infection	35 (16.4%)
Others - Non-infection	26 (12.2%)
Treatment discontinued	
No	193 (90.6%)
Yes	20 (9.4%)

Key Findings

- Between January 2023 to December 2024, 600 patient with lung cancer were treated.
- 35.5% of patients were hospitalised within 90 days.
- The main reason for hospitalisation was cancer progression (42.3%).
- Less than 10% of patients that were hospitalised discontinued treatment.
- Internal validation of the developed nomogram shows that it can modestly predict hospitalisation in patients with lung cancer (Harrell's C-index: 0.632).

Nomogram

- Using the Charlson Comorbidity Index (CCI), stage and neutrophil count at diagnosis. Their respective corresponding points are added together to determine one's risk of hospitalisation.

