

Treatment Patterns and Healthcare Costs in Patients with Small-Cell Lung Cancer in South Korea: A Nationwide Real-World Study

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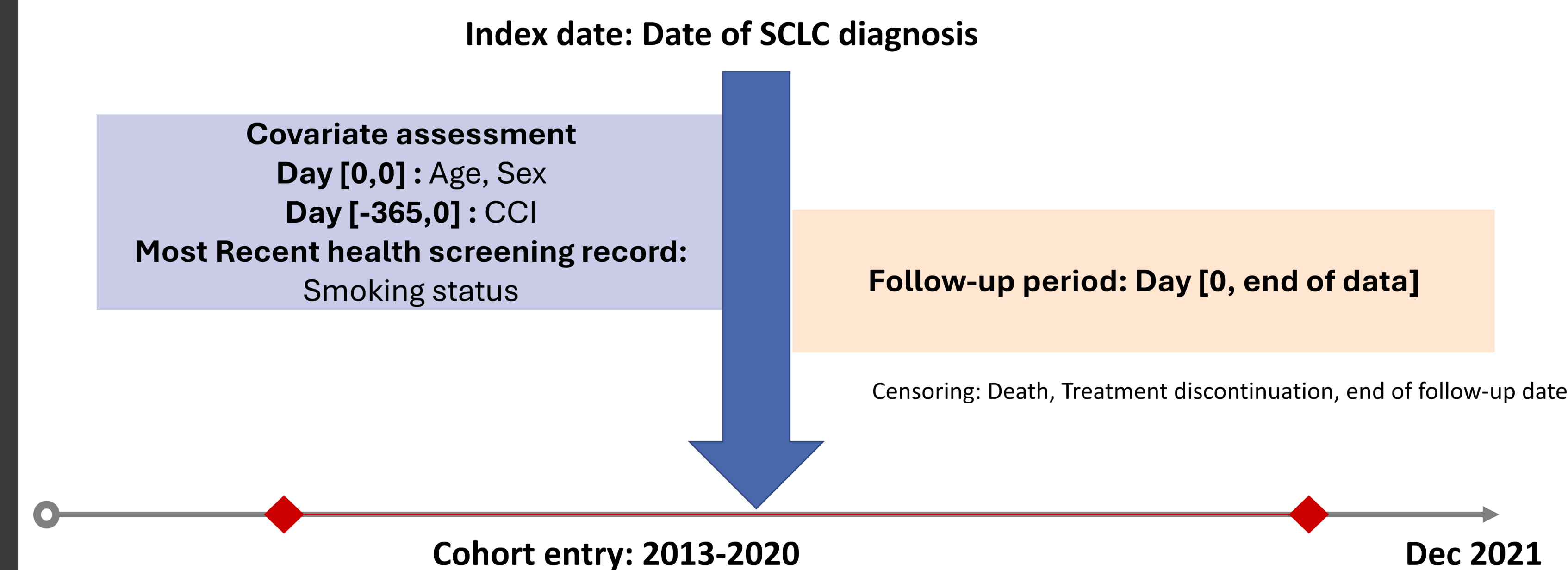
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Background

- Small Cell Lung Cancer (SCLC)** represents a highly aggressive malignancy associated with a poor prognosis, accounting for 15% of all lung cancers.
- Treatment strategies and health care resource use may vary substantially according to disease stage and line of therapy, potentially leading to increasing economic burden in later treatment lines.
- Objectives:** This study aimed to examine treatment patterns and healthcare costs by lines of therapy among patients with small cell lung cancer (SCLC) stratified by disease stage.

Methods

- Study design:** Retrospective cohort study
- Data source:** The Cancer Public Library Database under K-CURE project, covering all registered cancer patients in Korea (2012-2021)
- Study population:** Adult patients diagnosed with SCLC between 2013 and 2020 using the ICD-10 code (C34.0)
- Exclusion criteria**
 - Missing values for stage information (SEER_GROUP)
 - Cases with unidentifiable first-line treatment start date
- Index date:** The date of first SCLC diagnosis



- Outcome:** Treatment pattern and Healthcare cost
- Treatment pattern:**
 - 1L treatment initiation:** Date of first systemic therapy after SCLC diagnosis
 - Subsequent treatment line:**
 - Initiation of new regimen, with drug administered within 28 days considered part of the same line
 - Change of core agent
 - Treatment interruption of 60 days between consecutive administrations
- Healthcare cost:** Inpatient admissions, outpatient visits, and drug-related costs

Results

Baseline characteristics

- 20,760 patients with SCLC were included: 64.7% had extensive-stage (ES) disease and 35.3% had limited-stage (LS) disease.

Table 1. Baseline characteristic

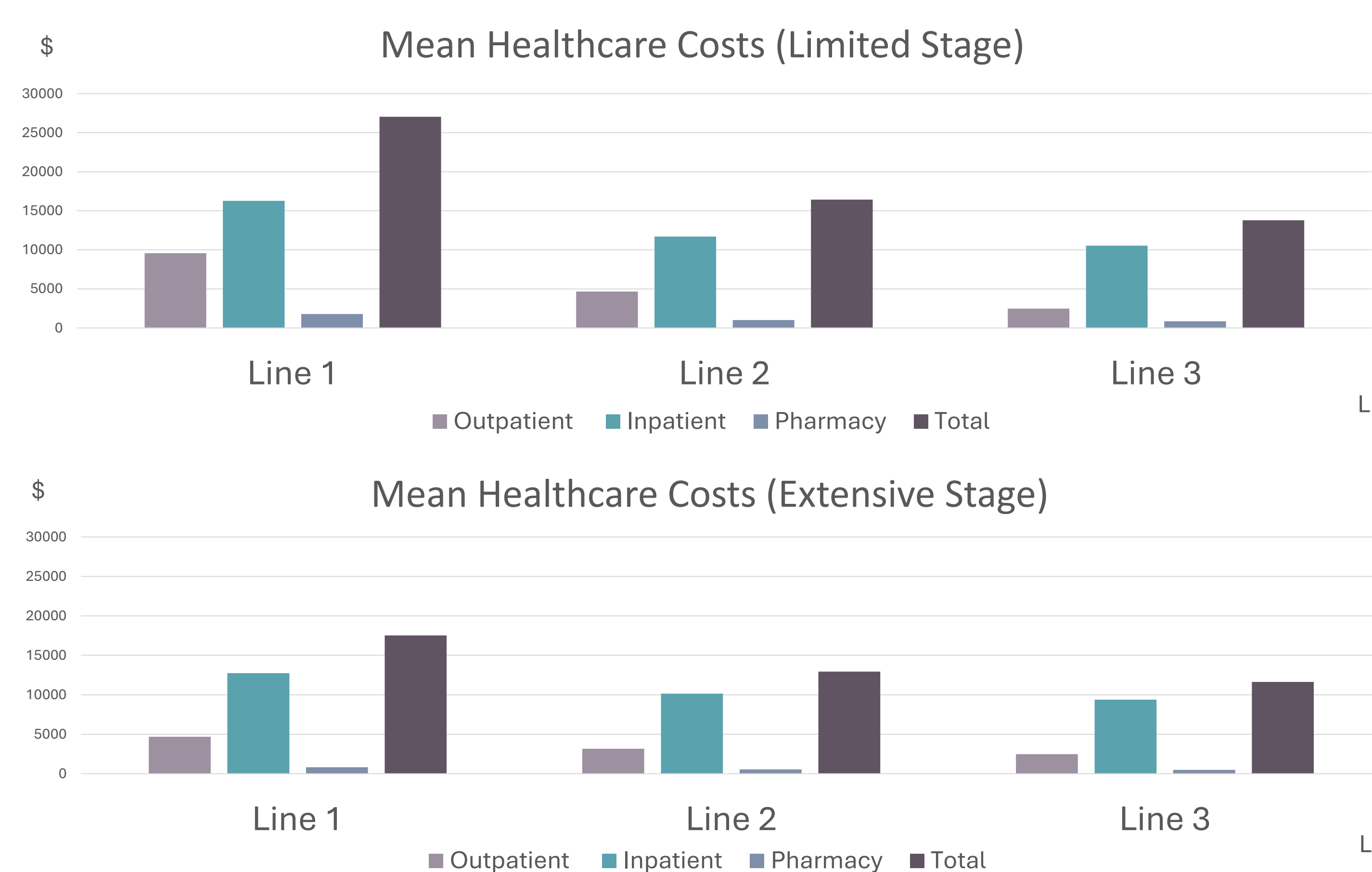
	LS (n=7,321)	ES (n=13,439)	p-value
Sex, N(%)			
Male	6167(84.2)	11583(86.2)	0.0001
Female	1154(15.8)	1856(13.8)	0.0001
Age, N(%)			<0.0001
<65	2107(28.8)	3611(26.9)	0.0032
65-74	2896(39.6)	5133(38.2)	0.0541
>74	2318(31.7)	4695(34.9)	<0.0001
Smoking status, N(%)			0.1031
Non-smoker	902(12.3)	1495(11.1)	0.4465
Ever smoker	1601(21.9)	2446(18.2)	0.0337
Current smoker	1468(20.0)	2458(18.3)	0.1405
Missing	3350(45.8)	7040(52.4)	<0.0001
CCI, mean(SD)	1.13(1.25)	1.16(1.43)	
CCI, N(%)			
0	2874(39.3)	5481(40.8)	0.032
1	2090(28.6)	3766(28.0)	0.4218
2	1396(19.1)	2355(17.5)	0.0057
3	712(9.7)	1195(8.9)	0.047
≥4	249(3.4)	642(4.8)	<0.0001

Abbreviations: LS, limited stage; ES, extensive stage; CCI, Charlson comorbidity index

Mean healthcare cost

- Mean total healthcare costs per patient decreased with advancing lines of therapy, ranging from USD 27,025 to 13,787 among LS patients and USD 17,514 to 11,619 in ES patients.

Table 2. Mean healthcare costs



References

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Treatment Pattern

- In both stages, etoposide/platinum was the most frequently used first-line regimen.
- Second-line therapies included etoposide/platinum, irinotecan/platinum, and belotecan, with differences in relative utilization between ES and LS patients.
- In the third line, paclitaxel was the most prescribed regimen in both stage patients.

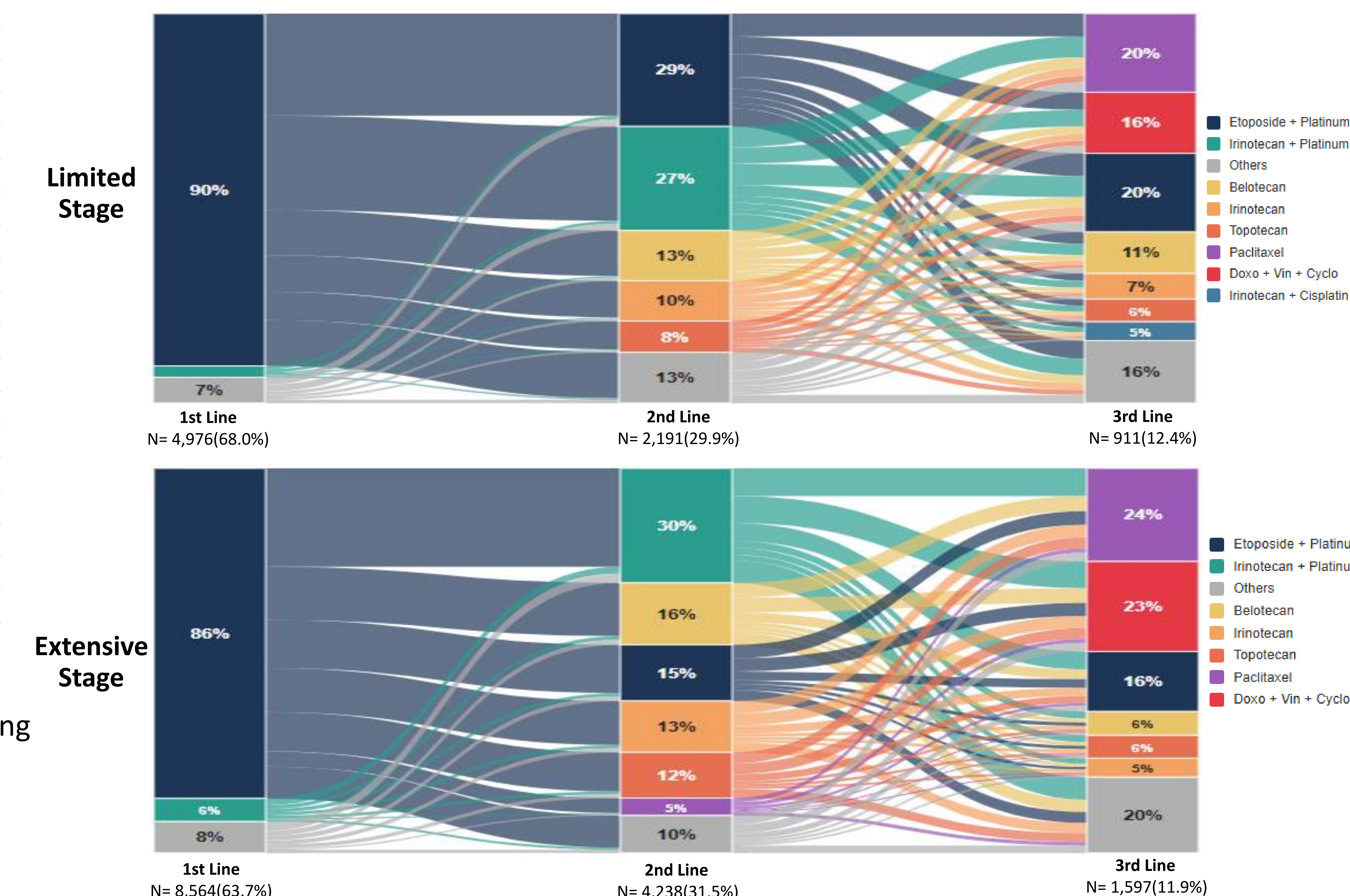


Figure 1. Treatment regimen distribution across lines of therapy

Discussion

Limitations

- Claims based line definitions using a 60-day gap may have led to potential misclassification of treatment lines.

Study implications

- Using nationwide claims data with stage-stratified analyses, this study provides the first nationally representative real-world evidence on treatment patterns among Korean patients with small-cell lung cancer in routine clinical practice.

Conclusions

- This nationwide real-world study provides stage-specific real-world evidence on systemic therapy utilization and healthcare costs across lines of therapy in SCLC.

Acknowledgment

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