

## **Health care resource utilization (HCRU) and associated costs of first-line systemic therapy (1LT) for locally advanced or metastatic non-small cell lung cancer (a/mNSCLC) - a secondary analysis of claims data from the United States (US)**

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### **SUPPLEMENTAL MATERIAL**

#### **METHODS – Sample size/precision calculation:**

Given mean per patient per month (PPPM) total costs (USD) of 20,106,  $\alpha = 0.05$  level of statistical significance, and standard deviation (SD) = USD 31,830, the width of the 95% confidence intervals (CI) vary with the following changes in sample size. (Skinner 2017) Analysis was conducted using R. (R Core Team, 2014)

<b>Sample size</b>	<b>95% CI of costs (USD) associated with HCRU (USD)</b>
150	15,012 – 25,200
500	17,316 - 22,896
1000	18,133 - 22,079
2000	18,710 - 21,501
3000	18,966 - 21,245

In feasibility assessments, the planned sample size was approximately 1,000 patients. (The actual sample size was 1,062 patients.) Given the assumptions specified above, the 95% CI for mean PPPM costs (USD) is USD 18,133–22,079, which was considered sufficient precision to derive meaningful study results.

## RESULTS – Time-to-treatment discontinuation:

The following table describes the full results for time-to-treatment discontinuation (TTD) for first-line (1L) systemic therapy for a/mNSCLC indicated for immuno-therapy.

	Time to 1L treatment discontinuation (months)		
	Mean (SD)	Median (IQR)	Range
Total sample (N = 1,062)	5.1 (4.64)	3.4 (2.17, 6.13)	1, 30
Treatment Groups			
Pembrolizumab in combination with platinum-based chemotherapy (n = 375)	5.5 (4.37)	4.2 (2.57, 6.75)	1, 29
Pembrolizumab in combination with any chemotherapy (n = 392)	5.5 (4.42)	4.2 (2.46, 6.74)	1, 29
Pembrolizumab only (n = 257)	6.4 (5.72)	4.3 (2.27, 8.33)	1, 30
Any immune checkpoint inhibitor in combination with any chemotherapy (n = 396)	6.3 (5.79)	4.3 (2.13, 8.19)	1, 30
Any immune checkpoint inhibitor only (n = 350)	5.5 (4.41)	4.2 (2.33, 6.71)	1, 29
Any chemotherapy only (n = 316)	3.3 (2.41)	2.4 (2.10, 3.70)	1, 25

IQR: Interquartile Range; SD: Standard Deviation.

TTD was calculated using the earliest of: (1) the last day of 1L treatment of interest per days supply and the date of the most recent claim of this treatment, and (2) date of death. Chemotherapy was administered per label.

## REFERENCES

R Core Team (2014). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. URL <http://www.R-project.org/>.

Skinner KE, Fernandes AW, Walker MS, Pavilack M, VanderWalde A (2017) Healthcare costs in patients with advanced non-small cell lung cancer and disease progression during targeted therapy: a real-world observational study. *Journal of Medical Economics*; 21 (2): 192-200.