# Physician perceptions of barriers to **Epidermal Growth Factor Receptor** mutation (EGFRm) testing in early and advanced (stage I / II / IIIa / IV) Non-Small Cell Lung Cancer (NSCLC)

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## **Objective**

• This study investigated real-world EGFR mutation testing patterns in early- and advanced-stage NSCLC, and identified reasons against implementation of testing by surveying physicians' perceptions

## **Overall Conclusions (across countries)**

- · EGFRm testing was reported to be standard practice in the advanced stage setting. Less than half of physicians routinely test for EGFRm in stages I-II, although the proportion of patients tested for EGFRm increased notably from stage I (30%) to stage IIIa (70%)
- Physicians indicate different reasons for not testing for EGFR mutations in early and advanced NSCLC patients. 'Waiting for patients to progress' was the main reason for not testing in earlystage disease; 'inadequate tissue' was the most commonly selected reason against testing at stage IV
- Physicians sometimes initiate treatment before patients receive EGFRm test results, particularly in the early-stage setting; this is largely due to 'risk of disease progression'
- With the introduction of targeted therapy in the early-stage disease setting, there is a need to adopt early EGFRm testing to support clinical decision making

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### Introduction

- EGFR mutations (EGFRm) are known oncogene drivers in NSCLC<sup>1</sup>
- Guidelines recommend EGFRm testing as standard of care in patients with advanced NSCLC<sup>2</sup>
- Third generation EGFR Tyrosine Kinase Inhibitor (TKI) osimertinib, has recently been approved in early-stage disease as adjuvant therapy following results from the phase 3 ADAURA trial. Data from the trial demonstrated significantly longer disease-free survival (DFS) in stage IB – IIIA EGFRm patients receiving osimertinib versus placebo [Stage IB-IIIA DFS Hazard Ratio: 0.20 (99.12% CI: 0.14, 0.30); p < 0.0001]<sup>3</sup>

## **Results and interpretation**

#### Table 1: Physician Demographics

	Globa (n=338
Physician specialty, n (%)	
Oncologist	276 (82
Pulmonologist / respiratory medicine	27 (8)
Other	35 (10
Early-stage NSCLC patients seen in the past month	
Median (IQR)	10 (5, 2
Advanced-stage NSCLC patients seen in the past mon	
Median (IQR)	20 (10, 3
Primary setting, n (%)	
Hospital only	174 (52
Office / clinic only	14 (4)
Hospital and office / clinic	149 (4

### Figure 2: Reasons for not testing for EGFRm in NSCLC



- not conducted at each disease stage
- in practice' (31%)
- 'Inadequate tissue' was the most common reason for not testing for EGFRm in stage IV patients (52%); the next Notable country differences were observed; physicians in Singapore, Switzerland and Russia indicated more routine most common reason was reimbursement issues (32%), a reason which was commonly selected across all EGFR testing at early stage before selecting first-line treatment in comparison with other countries (figure 3) disease stages (Stage I & II: 30%, Stage IIIa: 35%) (Figure 2)



- The majority (72%) of physicians indicated initiating early-stage therapy prior to receiving EGFR test results at

### Methods

- An online physician survey was conducted in Belgium, Brazil Switzerland, Argentina, Netherlands, Singapore, Russia, Turkey and India between June and September 2021
- Physicians provided responses on perceptions of EGFRm testing patterns, interpretation of results, treatment decisions and attitudes towards testing in advanced NSCLC patients
- A central institution review board (WIRB-Copernicus Group) reviewed the study and provided approval prior to the study start
- Physician selection criteria included:
- Primary specialty: Thoracic/respiratory/general surgeon, oncologist, pulmonologist/respiratory medicine, radiation oncologist, or internal medicine

- Actively involved in the management of at least 5 early stage OR at least 5 advanced stage NSCLC patients in the past month • Qualified for primary medical specialty between 1984 and
- 2017
- Physicians were invited to participate in the study through an online physician panel
- · Results presented here are for physicians who were treating a minimum of 5 early- or advanced-stage NSCLC patients in the previous month
- Data from the first wave of this study were presented at ELCC 2021. Here, we present data on the follow-up study, with a particular focus on early-stage NSCLC

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#### References

- da Cunha Santos G, et al. Annu Rev Pathol. 2011;6:49-69 Planchard D, et al. Ann Oncol. 2018;29(suppl4):iv192-iv237
- Wu YL, et al. N Engl J Med. 2020;383(18):1711-1723



- The majority of physicians were oncologists (82%), 96% were either hospital only or hospital/office based. Physicians saw a median of 10 early stage and 20 advanced stage NSCLC patients in the previous month (Table 1). 45% of physicians indicated molecular testing took place on-site (data not shown)
- Within the early-stage disease setting, physicians estimated 48% and 42% of patients are 'routinely' tested for EGFR common mutations at stages I and II respectively, rising to 57% in stage IIIa. In comparison, physicians indicated 'routinely' testing the vast majority (88%) of stage IV patients (Figure 1)
- When asked to estimate the proportion of patients tested at each stage, physicians estimated a median (IQR) 30% (10%,70%) are tested for EGFR common mutations at stage I, 40% (20%,90%) at stage II, 70% (30%,100%) at stage IIIa, and 100% (70%,100%) at stage IV of patients (only includes physicians who test at least 'rarely') (data not shown)

Reasons for not testing at stage I included 'testing will occur after progression' (37%) and 'no treatment implications

#### Figure 4: Physicians 'at least sometimes' initiating treatment prior to EGFRm test results

least 'sometimes'. A notable country range was observed (90% physicians in Belgium vs. 45% in Singapore) • In the advanced-stage setting, 57% of physicians indicated at least 'sometimes' starting treatment before EGFR test results. This was highest in Turkey (68%) and lowest in the Netherlands (21%) (figure 4)

#### Figure 3: Estimated proportion of patients tested for EGFR prior to selecting treatment



Physicians reported testing for EGFRm before treatment initiation in a median of 30% of early stage patients. This increased considerably to 90% of patients in the advanced stage setting

#### 100% Early-Stage (n=214) Advanced-Stage (n=287) 80% Note: only top five 60% responses selected shown 40% 23% 27% 21% 18% 12% 13% 20% 9% 9% 0% Risk of disease Standard turnaround Poor performance status/ Patient requests Delays in receipt of test time for tests is too long health progression immediate treatment results from the lab

• Of physicians who initiate treatment prior to receiving test results, 'risk of disease progression' was the leading reason in both early (23%) and advanced stage (27%) disease

• The next most common reason was 'poor performance status / health' in advanced stage (23%) and 'standard time for tests is too long' for early stage disease (21%) (figure 5)

### Figure 5: Physician-reported reason(s) for initiating treatment before EGFR test results

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