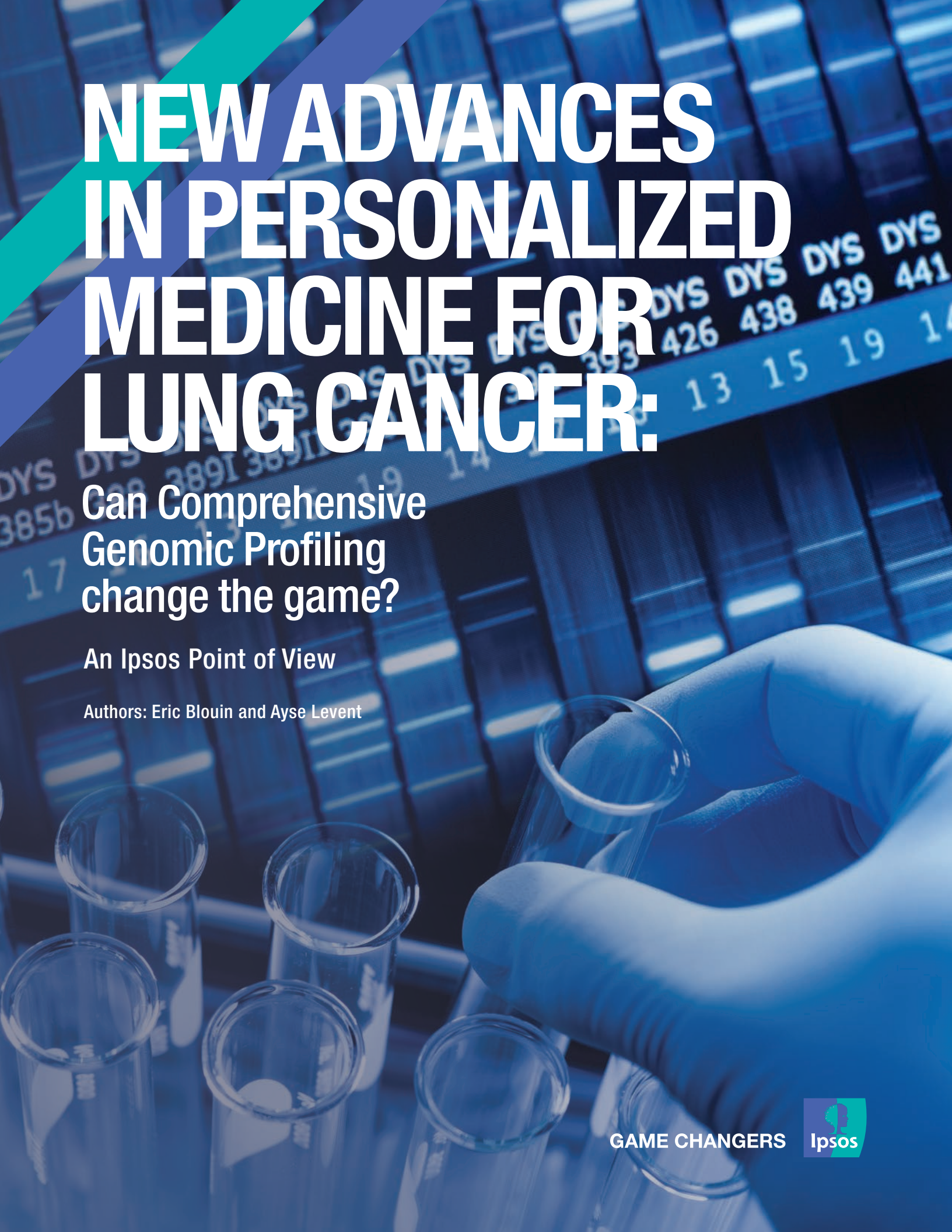

NEW ADVANCES IN PERSONALIZED MEDICINE FOR LUNG CANCER:

Can Comprehensive Genomic Profiling change the game?

An Ipsos Point of View

Authors: Eric Blouin and Ayse Levent

GAME CHANGERS

Ipsos

On **August 12, 2022,** AstraZeneca and Daiichi Sankyo's **Enhertu** (fam-trastuzumab deruxtecan-nxki) was approved by the FDA for the treatment of unresectable or metastatic non-small cell lung cancer (mNSCLC) whose tumors express HER2 mutations and who have received a prior systemic therapy. It's estimated that activating HER2 mutations are present in 1-4% of mNSCLC patients.[1]

The accelerated approval by the FDA was based on interim results from the **DESTINY-Lung02** Phase II trial. An interim efficacy analysis showed Enhertu demonstrated a confirmed overall response rate (ORR) of 57.7%, with a median duration of response (DoR) of nearly nine months.[2]

With this approval, Enhertu has become the first (a) antibody-drug conjugate (ADC) and (b) HER2 targeted agent approved in mNSCLC. It also becomes the **10th "actionable" biomarker for NSCLC** (or 14th if you include PD-L1, MSI-H/dMMR, TMB-H, and T790M). Among these 10 actionable biomarkers, we estimate that **nearly 50% of NSCLC patients**[3] in the United States are now clinically eligible for **targeted therapy** in first and/or second line, making NSCLC the leader in personalized medicine, and giving these patients a better chance to **respond to treatment and derive survival benefits.**

However, **not all mNSCLC patients are currently tested** for this broad array of biomarkers (and thus are not identified as eligible for these various targeted therapy options). Individual testing of over a dozen individual biomarkers is ultimately cost-prohibitive, as well as hindered by the practical limitations of tissue availability (i.e., not enough tumor tissue taken from the biopsy is available to run all of these biomarker tests individually) and the increased volume of testing that would be required.

A solution does currently exist in closing this gap in testing—**comprehensive genomic profiling (CGP)** using next-generation sequencing (NGS). Rather than testing for each mutation individually, CGP allows for a **broad panel of genes to be evaluated** using the same tumor specimen, which saves time and money. The FDA approved the first CGP tests in 2017 (OncomineDx Target, MSK-IMPACT, and FoundationOne), and as of 2022 there are now at least 36 different companies in the United States offering an even greater number of CGP tests for NSCLC. In addition, there are an increasing number of CGP assays available which are based on a "liquid" biopsy (i.e., blood sample), which greatly simplifies matters if re-testing is necessary for a patient.

While CGP testing for mNSCLC is growing in the U.S., Q3'21 data from Ipsos' Oncology MDx Monitor showed that only 57% of the U.S. NSCLC patients reported on had received CGP testing (up 9 percentage points on Q3'20).[4] This means that **over 40% were not being comprehensively tested** for the wide array of actionable genetic aberrations, thereby missing out on benefiting from the full range of associated treatment options.

Barriers to broader use of CGP include:

- **Cost/insurance coverage** (although, as mentioned earlier, individual testing of biomarkers is ultimately more expensive)
- **Hospital/treatment protocols/pathways** (i.e., single gene testing first to establish suitability for EGFR or ALK, and leaving testing of other actionable biomarkers to a later point in time)
- **Lack of impetus amongst some NSCLC treaters,** especially in smaller community-based settings

As a result, further education and support is needed from industry, academia, patient groups, and healthcare providers to:

- Encourage CGP testing as the standard of care for NSCLC, as it steers towards a patient-tailored treatment model that identifies the therapeutic options most likely to benefit a given patient and eliminate exposure to unnecessary treatments.
- Advocate towards payer coverage of CGP testing, regardless of the number of genes in the CGP panel.
- Provide support for CGP testing earlier in the patient's journey, even among earlier stages, to identify possible adjuvant treatments (e.g., Tagrisso for EGFR+) and also identify the possible treatment options should a patient relapse following surgery.

For more information, contact:

Eric Blouin
Senior Vice President of Oncology,
Healthcare, Ipsos
eric.blouin@ipsos.com

Ayse Levent
Senior Vice President,
Global Molecular Diagnostics Portfolio,
Healthcare, Ipsos
ayse.levent@ipsos.com

About the Ipsos' Oncology Center of Excellence:

- Over 200 oncology experts worldwide
- Oncology market access, forecasting, advisory services & market research across the pharma product lifecycle
- The world's most comprehensive database of cancer treatment data, covering all tumor types
- 60+ oncology clients, including the leading oncology manufacturers

About the Ipsos Molecular Diagnostic (MDx) Monitor:

A syndicated study using a panel of oncologists and pathologists to report on their practices relating to biomarker testing in the U.S. through the submission of online, de-identified patient charts detailing testing for biomarkers in NSCLC.

About Ipsos

At Ipsos we are passionately curious about people, markets, brands, and society. We deliver information and analysis that makes our complex world easier and faster to navigate and inspires our clients to make smarter decisions. With a strong presence in 90 countries, Ipsos employs more than 18,000 people and conducts research programs in more than 100 countries. Founded in France in 1975, Ipsos is controlled and managed by research professionals.

---

[1] Riudavets M, Sullivan I, Abdayem P, Planchard D. Targeting HER2 in non-small cell lung cancer (NSCLC): A glimpse of hope? An updated review on therapeutic strategies in NSCLC harbouring HER2 alterations. ESMO Open. 2021 Oct;6(5):100260. doi: 10.1016/j.esmoop.2021.100260. Epub 2021 Aug 31. PMID: 34479034; PMCID: PMC8414039. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8414039/

2 AZ press release August 12, 2022, https://www.astrazeneca.com/media-centre/press-releases/2022/enhertu-approved-in-us-for-her2-mutant-nsclc.html

[3] various published biomarker incidence data

[4] Ipsos MDx Monitor (NSCLC)—US 2021 (full methodological details available on request)