

The need for rapid lung NGS

The hope

Retrospective study of 525 newly diagnosed stage IV non-small cell lung cancer (NSCLC) patients harboring actionable oncogenic drivers reveals that genomic profiling-directed therapy may improve patient outcomes [1].

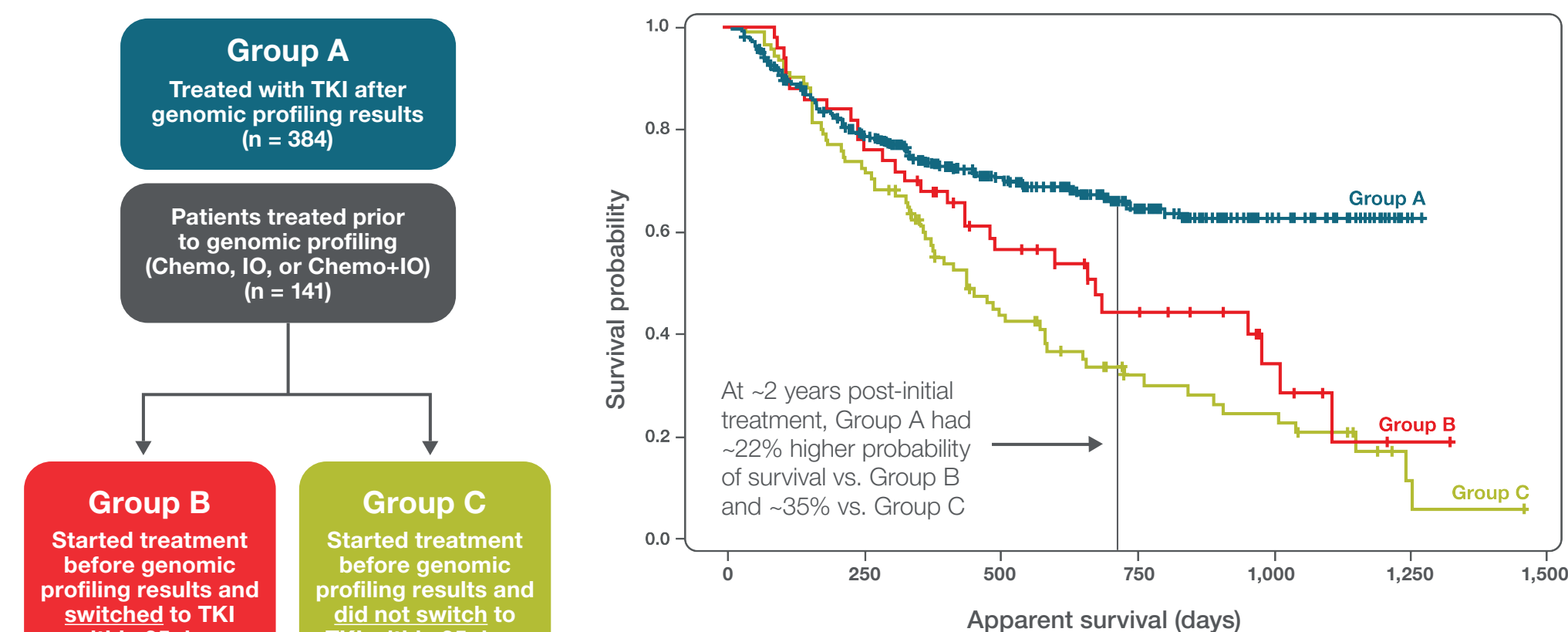


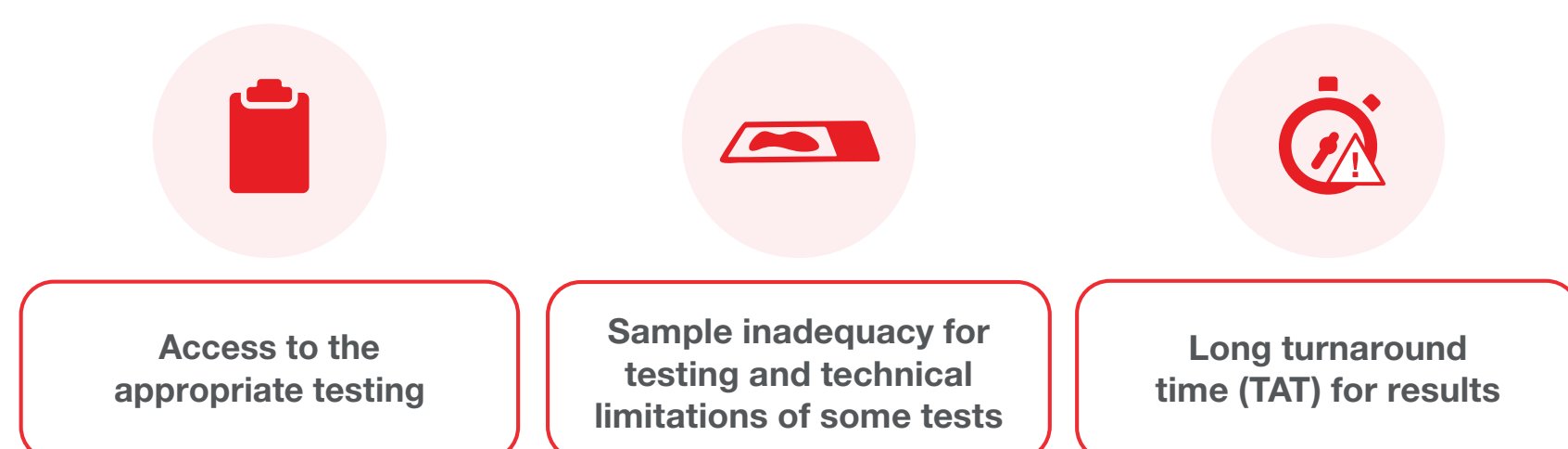
Figure 1. NSCLC patient cohorts for the genomic profiling-based treatment study.

The findings suggest that treatment outcomes were significantly compromised in patients who initiated treatment (Chemo, IO, or Chemo+IO) before their genomic profiling results were reported, compared to patients who initiated treatment after receiving their genomic profiling results.

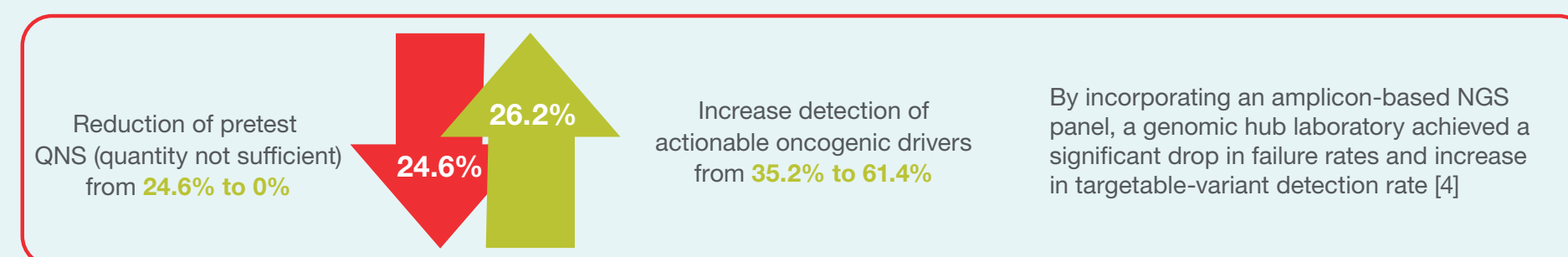
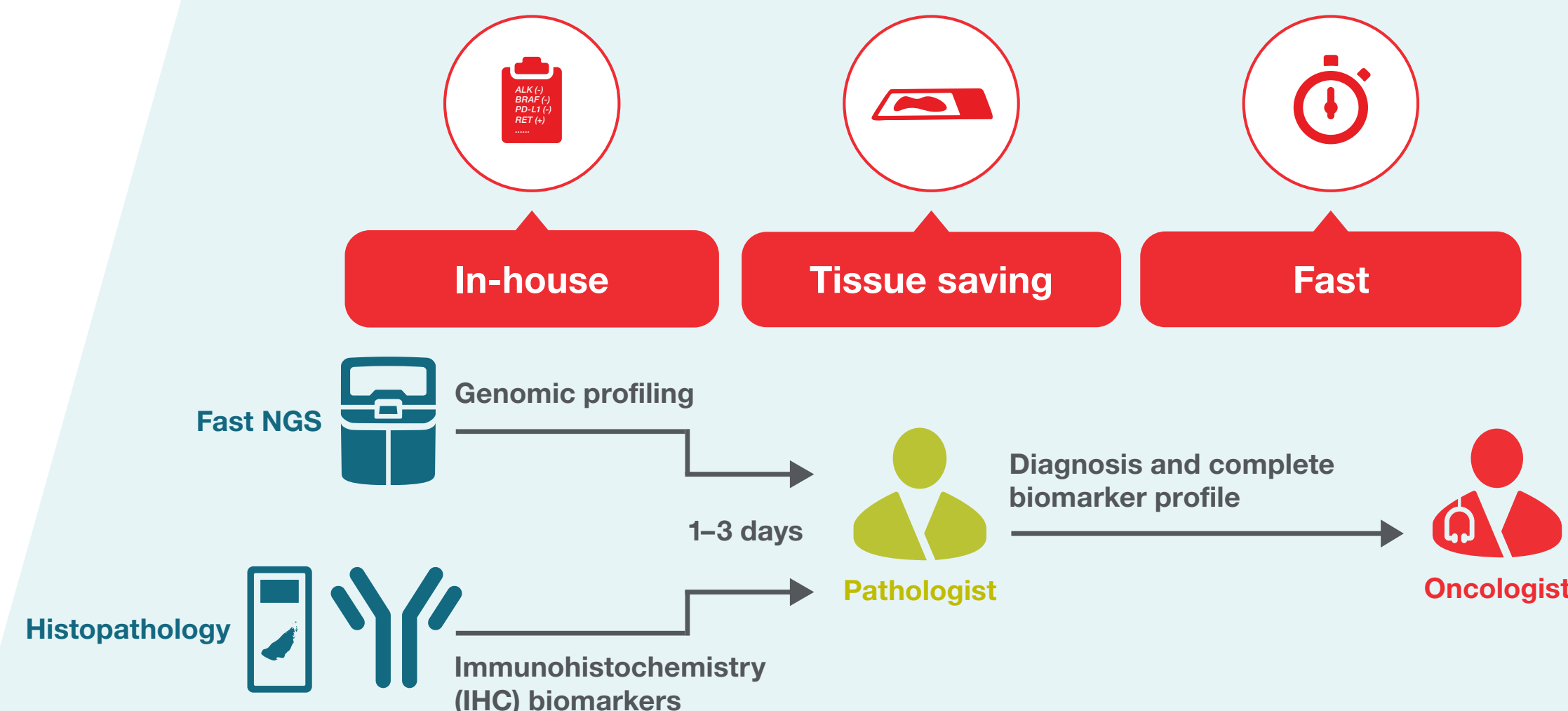
The limited-access reality

- 48.7%** of NSCLC patients are prescribed therapy in absence of a genomic profile [2]
- 24.7 days** is the average turnaround time of NGS-based tumor biomarker results in the US [1]
- 26.8%** of patients either do not have sufficient tissue for genomic profiling or receive an inconclusive result [2]

The main gaps in clinical testing [2]



The solution: rapid lung next-generation sequencing (NGS)



“Rapid NGS can be effectively run in integration with histopathology, with **medium TAT of 3 days**. This allows the pathologist to participate in precision cancer care in real time and offers considerable advantages for the clinical management of cancer patients” [3].



Brandon Sheffield, MD
Medical Director, Advanced Diagnostics
Physician Lead of Research
William Osler Health System, Canada

“Using both amplicon and hybrid-capture NGS, we are better adapted to processing poorer-quality samples. Rather than reporting failures, we’re able to detect a lot of variants in tissues that may have previously been a struggle to sequence. Overall, our results have changed dramatically just by increasing the variety of available NGS panels” [4].



James Beasley
Principal Clinical Scientist
West Midlands Regional Genetics Laboratory
Central and South Genomic Laboratory Hub, England

“With our **rapid lung NGS program** and >95% sequencing success rate, we strive to provide our oncology colleagues with all of the clinically recommended biomarkers in the first-line setting available to them when making therapy decisions” [5].



Lauren L. Ritterhouse Casariego, MD, PhD
Department of Pathology and Center for Integrated Diagnostics
Massachusetts General Hospital, United States

“With **rapid lung NGS**, we found an *EGFR* exon 20 insertion mutation in a patient progressing under third generation of TKIs in less than 2 working days, so they could be treated using new targeted treatment” [6].



Paul Hofman, MD, PhD
Professor of Pathology, Laboratory of Clinical and Experimental Pathology
Louis Pasteur Hospital, Nice, France

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