PT25

# Potential for Standardisation in Economic Assessment Across HTA Bodies: A Case Study in First-Line Treatments of Non-Small Cell Lung Cancer

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## Objective

To investigate the potential for standardisation in economic assessment by examining influential drivers of uncertainty in economic evaluations submitted in published technology appraisals (TAs).

## Background

- With the introduction of EU Joint Clinical Assessment (JCA) for first-indication oncology products from 2025, there is increasing focus on cross-border standardisation in HTA. Standardisation is typically limited to assessments of clinical effectiveness and safety, given parameters for economic assessments can be country-specific, particularly costs and healthcare resource use (HCRU). The potential for standardisation of HTA modelling is dependent on which model parameters have a high degree of uncertainty and are expected to be driving the results of economic models between countries.
- Key cost-effectiveness markets like England and Canada will not be a part of the JCA framework, however each of their HTA agencies (NICE and CDA, respectively) have comprehensive assessment frameworks for HTA modelling which can provide insight into the key sources of uncertainty in models and the drivers of cost-effectiveness.

## Methods

- The NICE lung cancer guideline (NG122)[1] was reviewed in May 2024 to identify published NICE TAs in untreated, advanced non-small cell lung cancer (NSCLC). Model parameters considered to be highly uncertain and likely influential drivers of uncertainty in cost-effectiveness were identified from deterministic sensitivity analyses, scenarios and feedback from external assessment groups.
- A subset of corresponding appraisals in NSCLC from CDA and HAS were reviewed as an exploratory comparison to other HTA bodies, as denoted by the thicker lines in **Figure 1**. These TAs were chosen from a range of indications if published cost-effectiveness analyses were available from both bodies. Those TAs selected provided insight from other key European and non-European markets in key themes of uncertainty. Available evidence was limited as CDA only publishes a summary of the evidence from the company submission and HAS only publishes economic evaluations and their critique for specific products in specific indications (including some NSCLC products).

## Results

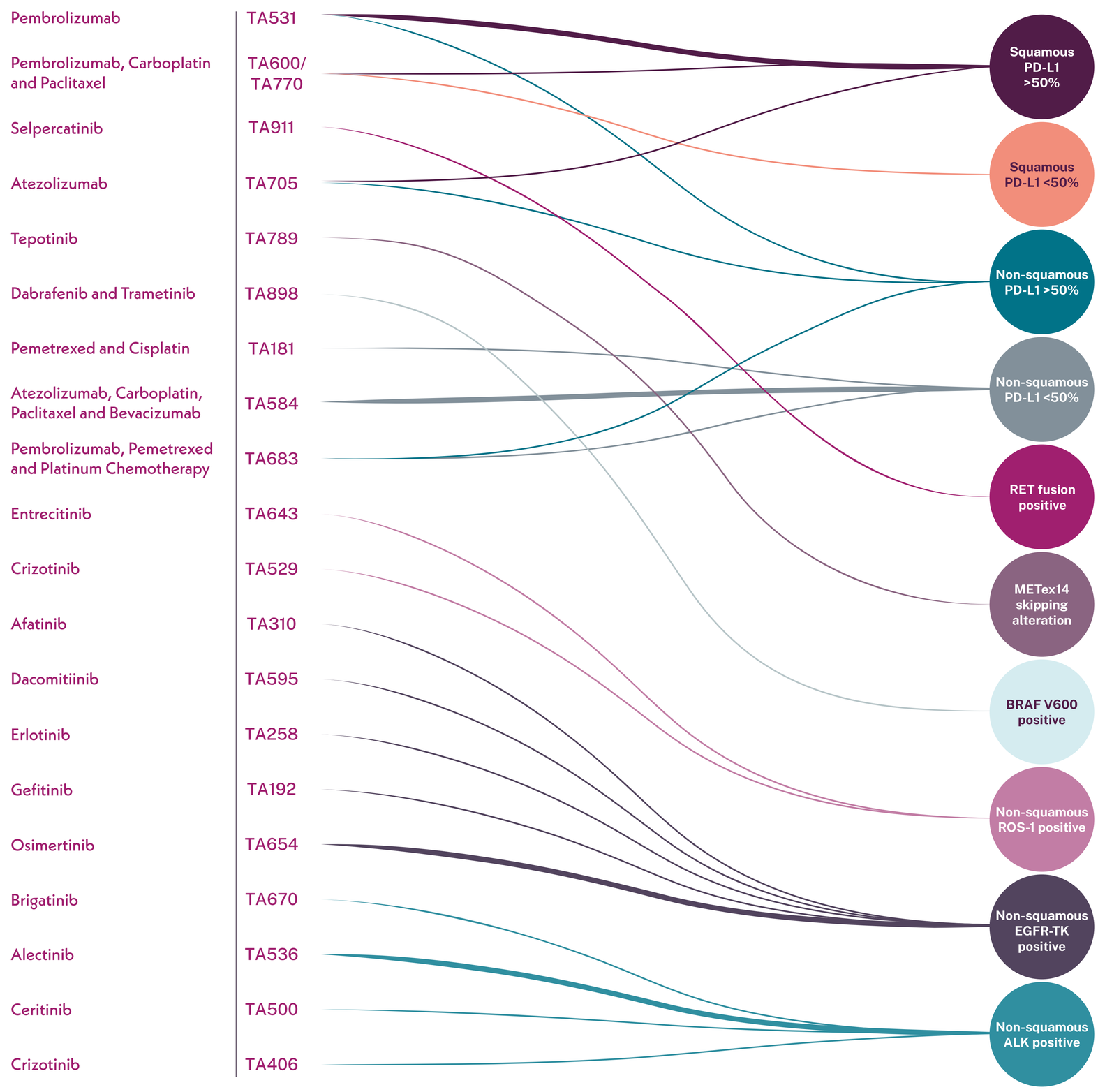
- From the NICE guidelines, 20 relevant NICE appraisals were identified which are presented in **Figure 1**. These covered indications across NSCLC, including squamous and non-squamous, PD-L1 expression, and mutation presence (e.g. EGFR-TK, ALK). Treatments modelled included immunotherapy monotherapies (n=2) and combinations (n=3), a platinum-based chemotherapy (n=1), EGFR TKIs (n=5), ALK inhibitors (n=4), ROS1 inhibitors (n=2), a MET inhibitor (n=1), a BRAF inhibitor (n=1), and a RET inhibitor (n=1).
- Key areas of uncertainty and drivers of cost-effectiveness are presented in **Figure 2**.
  - In the NICE appraisals, overall survival (OS) was the most common driver of uncertainty (n=15) including choice of extrapolation curve (n=11) and indirect treatment comparison (ITC) method (n=4).
  - Progression-free survival (PFS) was a key driver of uncertainty in fewer instances than OS (n=7) in the NICE appraisals and the uncertainties were often linked to ITC methodology (n=4) or extrapolation choice (n=3).
  - Utility was also highlighted as a common driver of uncertainty in the NICE appraisals (n=11).
  - The NICE appraisals also identified clinical parameters informing treatment costs including dose intensity (n=6) and treatment duration (n=5) as areas of uncertainty.
    - Treatment stopping rules were areas of uncertainty in all immunotherapy appraisals reviewed (n=5).
- In corresponding HAS appraisals (n=4), OS extrapolations (n=4) and utilities (n=3) were the most common key drivers of uncertainty.
- In corresponding CDA appraisals (n=4), PFS (n=3), OS (n=2) and utility (n=2) were the most frequent drivers of uncertainty.
- Notably, unit costs and HCRU frequency were not key drivers of uncertainty in many appraisals:
  - In a small number of NICE appraisals (n=2), there were discrepancies between modelled and SmPC recommended dosing regimens, however this was considered a technical inaccuracy rather than an uncertainty.
  - In some older appraisals, uncertainty around the comparator costs was highlighted as an issue due to confidential discounts not included in the model, however this information is available to HTA bodies so is not a source of uncertainty in decision making.

## Conclusion

Across untreated, advanced NSCLC TAs, clinical parameters informing economic assessment were consistently identified as influential sources of uncertainty, in particular modelling of long-term survival. Such parameters are typically derived from pivotal clinical trials or indirect treatment comparisons, which inform economic assessments across multiple HTA bodies. Country-specific cost and HCRU parameters were not commonly influential uncertainties despite these parameters differing between markets. Standardising the appraisal of modelled clinical parameters may be feasible and would avoid multiple individual HTA bodies having the same discussions around which clinical modelling methods are most appropriate. Therefore, an extension to the existing JCA process could consider providing recommendations for the most plausible extrapolations of data or ITC methods.

**FIGURE 1**

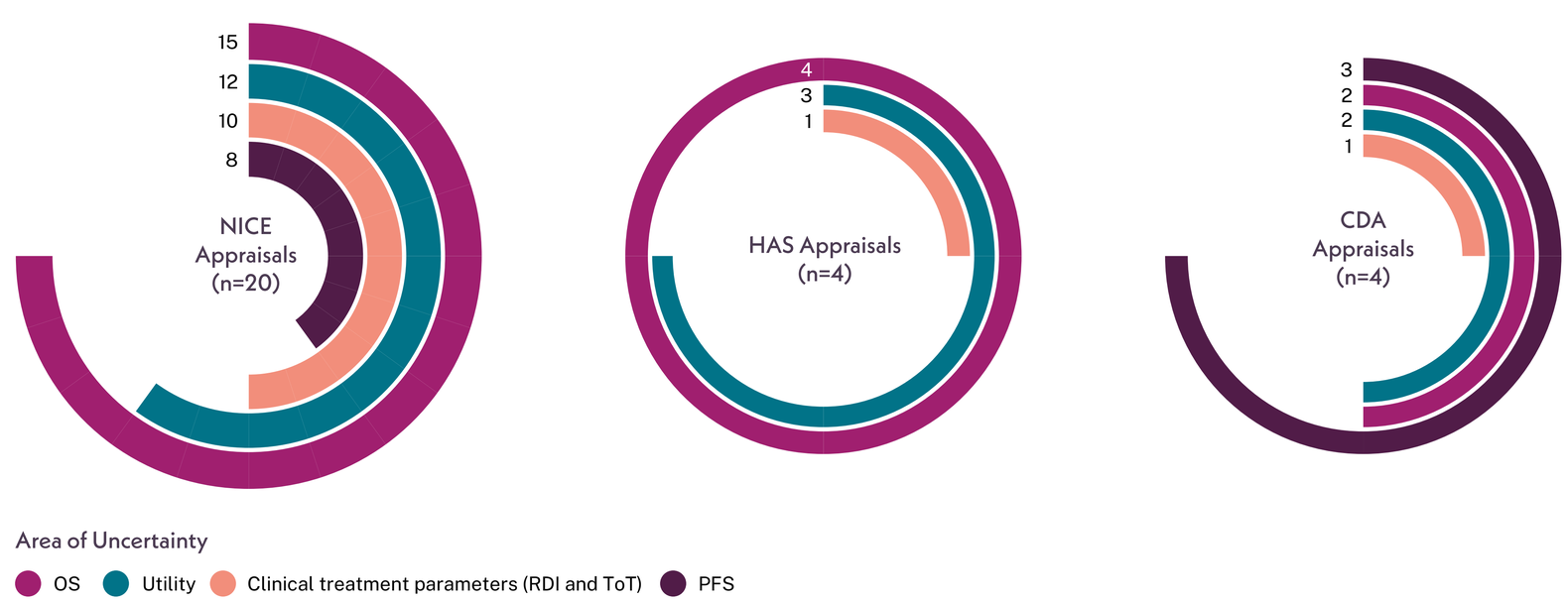
Treatment pathway summary




Thick lines in plot represent HAS and CADTH appraisals that were reviewed.

**FIGURE 2**

Summary of key uncertainties in each appraisal




**Abbreviations: ALK:** anaplastic lymphoma kinase; **BRAF:** B-rapidly accelerated fibrosarcoma; **EGFR-TK:** epidermal growth factor receptor tyrosine kinase; **METex14:** mesenchymal-epidermal transition factor exon 14; **NICE:** National Institute for Health and Care Excellence; **OS**: overall survival; **PD-L1:** programmed cell death ligand 1; **PFS:** progression-free survival; **RET:** rearranged during transfection; **RDI:** relative dose intensity; **ROS-1:** c-ros oncogene 1; **ToT:** time on treatment; **TA:** technology appraisal.

**References:** [1]NICE (2019). NICE Guidelines [NG122]. Lung cancer: diagnosis and management. Systemic anti-cancer therapy (SACT) for advanced non-small-cell lung cancer. Available from: https://www.nice.org.uk/guidance/ng122/resources/interactive-pdf-of-all-treatment-pathways-for-squamous-and-nonsquamous-advanced-nonsmallcell-lung-cancer-pdf-11189888174 [Last accessed 30 Sep 24]. **Acknowledgements:** The authors thank Ben James and Ashleigh Farthing, Costello Medical, for graphic design assistance. We also thank Alex Porteous for their review and editorial assistance in the preparation of this poster.

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