ISPOR Europe 2023

12 - 15 November

# Poster Tour Guide Packet

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| **Poster Session:** | **Poster Session 3** |
| **Tour Name:** | **Oncology** |
| **Tour Date/Time:** | Tuesday, 14 November 2023, 11:30 - 12:15 |
| **Tour Location:** | Area B, Poster and Exhibit Hall, Hall C |

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|---|---|
| **Acceptance Code:** | PT31 |
| **Board Number:** | 1B |
| **Abstract Title:** | A Time Series Analysis of Immune Checkpoint Inhibitors Use in Italian Population: 2017-2022 |
| **Presenting Author:** | Sara Mucherino |

**Abstract Body:**

OBJECTIVES: The advent of immunotherapy significantly changed the therapeutic scenario of cancer patients. The adoption of immune checkpoint inhibitors (ICIs) represented the new weapon for cancer treatment in different settings. The aim of this study was to describe trends in ICI utilization and corresponding healthcare expenditures within the Italian population.

METHODS: We analyzed IMS-Health National data to describe trends in total number of claims, total annual expenditures, and expenditures per claim for ICIs from January 2017 to December 2022 among Italian population (~60 million inhabitants) (PRIN2017 Prot.2017NR7W5K). Seven market approved ICIs in Italy were analysed (Ipilimumab, Nivolumab, Pembrolizumab, Durvalumab, Avelumab, Atezolizumab, Cemiplimab). A time-series modeling was used for analysis.

RESULTS: From 2017 to 2022, utilization rates for each of the seven market approved ICIs in Italy increased 15.1%, from 215,441 to 614,510 unit-per-year, also overall expenditure on ICIs increased 16.3%, from €236,322,360 to €778,745,480. In the first three-year period analyzed, Nivolumab recorded higher rates of consumption and spending than the other ICIs with a sharp decrease in the following years (-57.1% consumption and -46.6% spending). Opposite trend was recorded for Pembrolizumab with a slow increase in consumption (+38.9%) and spending (+29.0%) over the whole time period.

CONCLUSIONS: The rapid increase in the use of ICIs has accounted for a disproportionate share of the growth in public pharmaceutical consumption and spending in Italy. Future research should relate patient outcomes to overall spending to justify the long-term investment in the use of these therapies for the Italian health service.

**Tour Guide's Questions for Starting Q&A** (Each poster will have ~5 minutes for Q&A with attendees/Tour Guide)

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| **Acceptance Code:** | PT32 |
| **Board Number:** | 2B |
| **Abstract Title:** | Cost-Effectiveness of Lorlatinib in Second-Line Treatment of ALK-Positive Advanced Non-Small Cell Lung Cancer in China |
| **Presenting Author:** | Yawen Jiang |

**Abstract Body:**

OBJECTIVES: To evaluate the cost effectiveness of lorlatinib in comparison to alectinib and ceritinib, as second-line treatments for patients with ALK-positive advanced NSCLC in China.

METHODS: We employed a partitioned survival model (PSM) to forecast the economic and health outcomes associated with the treatment of ALK-positive advanced NSCLC using lorlatinib, alectinib, and ceritinib. Clinical trial data from the "Lorlatinib Trial" were extrapolated to generate progression-free survival and overall survival curves for the lorlatinib cohort. The matching-adjusted indirect comparison method was utilized to derive corresponding survival curves by determining the hazard ratios of ceritinib and alectinib in reference to lorlatinib. We calculated costs, quality-adjusted life years (QALYs), and incremental cost-effectiveness ratios (ICERs) from a healthcare system perspective using a 5% annual discount rate. Robustness checks were performed using one-way sensitivity analysis (OWSA) and a probabilistic sensitivity analysis (PSA).

RESULTS: The lorlatinib treatment cohort had incremental costs of ¥110,883.07, incremental QALYs of 1.22, and an ICER of ¥91,025.00/QALY compared to alectinib in the base case. When compared to ceritinib, the incremental costs of lorlatinib was ¥1135427.28, the incremental QALYs were 2.10, and the ICER was ¥164555.13/QALY. When using 1.5 times the 2021 GDP per capita of China (¥121,464) as the willingness-to-pay (WTP) threshold, lorlatinib was cost effective for second-line treatment of ALK-positive NSCLC compared to alectinib and ceritinib. The robustness of the baseline deterministic results was confirmed in sensitivity analyses.

CONCLUSIONS: From the perspective of the Chinese healthcare system, lorlatinib presents a cost-effective alternative to alectinib and ceritinib for the second-line treatment of advanced ALK-positive NSCLC.

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| **Acceptance Code:** | PT33 |
| **Board Number:** | 3B |
| **Abstract Title:** | Cost-Effectiveness of Pembrolizumab Plus Chemotherapy, With or Without Bevacizumab for the First-Line Treatment of PD-L1-Positive Patients With Persistent, Recurrent, or Metastatic Cervical Cancer in France |
| **Presenting Author:** | Lucile Marié |

**Abstract Body:**

OBJECTIVES: To assess the cost-effectiveness of pembrolizumab with chemotherapy (with or without bevacizumab) versus chemotherapy (with or without bevacizumab) in PD-L1-positive (CPS≥1) patients with persistent, recurrent, or metastatic cervical cancer, from the French healthcare perspective.

METHODS: A three-state semi-Markov model (pre-progression, post-progression and death) was adapted to French settings to estimate the cost-effectiveness of pembrolizumab + chemotherapy ± bevacizumab versus chemotherapy ± bevacizumab. Clinical and quality of life data were obtained from patient-level data of the phase 3 study KEYNOTE-826 interim analysis. Progression-free survival, time to progression, post-progression survival and time on treatment were extrapolated over a 7-year time horizon based on piecewise models. EQ-5D-5L data estimated by a regression model were converted to French population-based utilities using the French value set. Only direct medical costs were considered, based on public sources. Costs and health outcomes were discounted at 2.5% per year. Incremental cost-effectiveness ratio (ICER) was calculated as cost per quality-adjusted life year (QALY) gained. Deterministic and probabilistic sensitivity analyses and scenarios analyses were conducted to assess robustness of results.

RESULTS: Pembrolizumab plus chemotherapy ± bevacizumab generates an incremental cost of €111,341 and 2.35 incremental QALYs per patient compared to chemotherapy ± bevacizumab, resulting in an ICER of €168,076/QALY. Results were mostly sensitive to methods of extrapolation and treatment duration, with an ICER varying from €134,644/QALY (-20%), to €197 473/QALY (+17%). A scenario using a partitioned survival model produces an ICER of €193 482/QALY. Exploratory subgroups analyses relative to the use of bevacizumab are associated with ICERs from €158 738/QALY in patients receiving bevacizumab to €214 450 /QALY in patients not receiving bevacizumab. Pembrolizumab plus chemotherapy ± bevacizumab has more than 80% probability of being cost-effective below the willingness-to-pay threshold of €250,000/QALY.

CONCLUSIONS: Combining pembrolizumab with chemotherapy, regardless of the use of bevacizumab, improves life expectancy and appears cost-effective versus chemotherapy.

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| **Acceptance Code:** | PT34 |
| **Board Number:** | 4B |
| **Abstract Title:** | Impact in Health Outcomes of PD-(L)1 Inhibitors to Treat Early Stages Cancers in Switzerland |
| **Presenting Author:** | Andrea Favre-Bulle |

**Abstract Body:**


OBJECTIVES: It is estimated that 45,000 new cases of all cancers and 17,300 deaths due to cancer occur in Switzerland every year (1). A health outcomes projection model, used in Belgium, was adapted to Switzerland to assess the health benefits of adopting PD-(L)1 inhibitors in multiple early-stage cancers. Two scenarios were developed to compare health outcomes: a) PD-(L)1 inhibitors can be used for patients with early-stage disease (world with PD-(L)1 inhibitors) vs b) PD(L)1 inhibitors are reserved for patients who develop advanced/ metastatic disease (world without PD-(L)1 inhibitors for early-stage disease).

METHODS: The health outcomes model focuses on 3 cancers: melanoma, renal cell carcinoma (RCC), and triple-negative breast cancer (TNBC). The model predicts clinical outcomes throughout the average patient pathway in weekly cycles from when they initiate neoadjuvant and/or adjuvant treatment, over a time horizon of 10 years. Clinical outcomes estimated include life-years (LY), quality-adjusted life-years (QALY), events or recurrences, active treatments for metastatic disease, adverse events (AE), and deaths. The model leverages cost-effectiveness and budget impact models developed for HTA purposes, data from pivotal trials, and Swiss specific data on projected eligible patients and market shares (2-6).

RESULTS: Of the estimated 10,659 eligible patients over 10 years (2022-2031), 9,050 are estimated to initiate neoadjuvant and/or adjuvant treatment with PD-(L)1 inhibitors for early treatment for melanoma, RCC, and TNBC. Compared to PD-(L)1s being available only in the metastatic setting, introducing PD-(L)1 inhibitors in the neoadjuvant and/or adjuvant setting for melanoma, RCC, and TNBC is anticipated to: • Avoid 1,144 recurrences (27%).

• Prevent 1,339 (33%) active treatments in the metastatic setting.

• Avoid 605 (29%) deaths.

• Increase Life Years without recurrence by 3,416 (10%).

CONCLUSIONS: Results suggest a potential benefit in preventing metastatic disease treatments, recurrences, and in deaths in Switzerland if PD-(L)1 inhibitors are used in the early stage of cancer treatment.


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| **Acceptance Code:** | PT35 |
| **Board Number:** | 5B |
| **Abstract Title:** | Matching-Adjusted Indirect Comparison (MAIC) of Dabrafenib Plus Trametinib Versus Pembrolizumab Plus Chemotherapy in Patients with Treatment-Naive Metastatic BRAF V600 Mutation-Positive Non-Small Cell Lung Cancer (NSCLC) |
| **Presenting Author:** | Ting-An Tai |

**Abstract Body:**

OBJECTIVES: There is a large unmet need for the treatment of metastatic non-small cell lung cancer (NSCLC) patients harbouring the BRAF V600 mutation. The efficacy of dabrafenib with trametinib (Taf-Mek) for the treatment naive metastatic BRAF V600 mutated NSCLC was assessed in the single arm phase II BRF113928 trial (NCT1033634). In the absence of a head-to-head study, an unanchored MAIC was conducted to compare overall survival (OS) and progression-free survival (PFS) with pembrolizumab plus platinum-based chemotherapy (Pembro+PDC).

METHODS: Individual patient data (IPD) from Cohort C of the BRF113928 trial (NCT01336634) were weighted to match the aggregate baseline characteristics of the Pembro+PDC arm from the KEYNOTE-189 trial (NCT02578680). The prognostic variables were selected based on literature and Cox-regression analysis, and included age, gender, ECOG, smoking status, histology, liver metastases, brain metastases and extent of metastasis. Pseudo IPD of Pembro+PDC was obtained by digitizing Kaplan-Meier (KM) curves and the Guyot algorithm. After matching, hazard ratios (HRs) were estimated using a weighted Cox proportional hazard model. Success of matching was assessed by inspecting distributions of weights and effective sample size (ESS).

RESULTS: The MAIC successfully balanced reported baseline characteristics. Before matching, OS was similar between Taf-Mek and Pembro+PDC (HR 0.944 [95% CI 0.638 - 1.398]) while adjusted HR numerically favored Taf-Mek (HR 0.817 [95% CI 0.454 - 1.471]). Taf-Mek appeared to prolong PFS compared with Pembro+PDC both before and after matching but the difference was not significant (naive HR 0.759 [95% CI 0.493 - 1.167]; adjusted HR 0.842 [95% CI 0.295 - 2.402]).

CONCLUSIONS: The MAIC showed that Taf-Mek has numerically better OS and PFS than Pembro+PDC in treatment-naive metastatic BRAF V600 mutation-positive NSCLC patients; however results are not statistically significant. A limitation of this study is that it was not possible to match for BRAF mutation and PD-L1.

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| **Acceptance Code:** | PT36 |
| **Board Number:** | 6B |
| **Abstract Title:** | Real-World Analysis on Therapeutic Pattern and Economic Burden of Androgen-Receptor Signaling Inhibitors (ARSI) and Taxane-Based Chemotherapy Treated Metastatic Castration-Resistant Prostate Cancer Patients in Italy |
| **Presenting Author:** | Melania Dovizio |

**Abstract Body:**

OBJECTIVES: This real-world analysis investigated the therapeutic patterns and economic burden of metastatic castration-resistant prostate cancer(mCRPC) patients treated with androgen receptor signaling inhibitors(ARSI) and taxane-based chemotherapy in Italy.

METHODS: Italian administrative databases of healthcare entities covering 5 million residents were retrospectively browsed. Among PC patients (identified by hospitalization discharge diagnosis ICD-9-CM code 185, or through androgen-deprivation therapy prescription), mCRPC were proxied through treatment with ≥1 ARSI (abiraterone or enzalutamide) across 2015-2020, based on drugs reimbursability criteria for the National Health Service. The treatment with taxane-based chemotherapy (identified by procedural codes and/or the prescription of antineoplastic agents including docetaxel or cabazitaxel) were recorded for all patients.

RESULTS: Of 45,104 PC patients (among 5 million inhabitants), 2,110 on ARSI were identified as mCRPC: 1,221 had also ≥1 record of taxane-based chemotherapy, 635 (52.0%) before and 586 (48.0%) after ARSI. In ARSI and taxane-based chemotherapy-treated patients, age averaged 73.9±8.3 years; the most common metastasis sites were bones (65.9%) and lymph-nodes (22.8%). The therapeutic pattern involving taxane-based chemotherapy and one ARSI was identified in 67% of patients. Moreover, 32% of patients progressed to a second ARSI during the follow-up. In alive patients, the average healthcare resource consumptions/patient at 1-year follow-up were: 13.0±6.1 drug prescriptions, 24.7±13.8 specialist services and 0.7±1.3 hospitalizations. These consumptions generated a total healthcare direct cost of 35,522€/patient, prominently burdened by all-drug expenses (30,192€).

CONCLUSIONS: This analysis reported the therapeutic pattern and the economic impact of PC in an Italian clinical practice setting. Among patients requiring ARSI and taxane-based chemotherapy, about 67% received one ARSI and 32% received a second ARSI during the follow-up (with 9.7% of patients being treated consecutively with 2 different ARSI), suggesting a possible unmet therapeutic need for patients' management. Moreover, the evaluation of economic burden taking into consideration patient' clinical outcomes should be add to these evidence.

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