

Poster Tour Guide Packet

ISPOR 2022



Poster Session:	In-Person and Virtual Poster Session 4
Tour Name:	Oncology
Tour Time:	Tuesday, May 17, 2022, 5:30 - 6:30 PM
Tour Area:	Area B, Prince George Exhibit Hall

Acceptance Code:	EE149
Abstract Title:	Predicting the Population Budget Impact of Current and New Listings for Colorectal Cancer: The PRIMCAT-CRC Model
Presenting Author:	Koen Degeling

Abstract Body:

OBJECTIVES: The number of patients utilizing new cancer treatments is an often highly uncertain yet critical parameter in estimating financial impact. In the PRedicting the population IMPact of Cancer Treatments (PRIMCAT) project, we developed a real-world data-driven PRIMCAT-CRC simulation framework that models the utilization of colorectal cancer (CRC) treatments at different disease stages over time.

METHODS: Clinical experts defined stage-specific treatment algorithms that informed a discrete event simulation (DES) implemented in R. The DES simulated an open patient population with varying disease type (colon or rectal cancer), stage (I-IV), and RAS mutation status (wild-type or mutant). The DES was populated using Australian clinical registries and linked administrative dataset, complemented with population-level incidence data. A new survival analysis approach for censored competing risks data was used to estimate event probabilities and time-to-event distributions. In a case study, we estimated the 5-year impact of introducing pembrolizumab as first-line treatment for mismatch-repair deficient (dMMR) metastatic CRC for a range of scenarios.

RESULTS: Given 15% dMMR prevalence reported in literature and 100% uptake, 706 patients per year would receive pembrolizumab as first-line treatment in Australia over the years 2022-2026, of which 45% would be recurrent cases and 42% RAS wild-type. Based on Australian estimates (prevalence: 6.9%, testing uptake: 42% in 2022 and 84% from 2023 onwards), 138 patients would receive pembrolizumab in 2022 and on average 273 per year in the years 2023-2026. Additionally considering a literature-informed hazard ratio of 0.6 for the time-to-progression and relative risks for progression-to-next-treatment of 1.07 (RAS wild-type) and 1.11 (RAS mutant), the increase in progression would negate that in time-to-progression, resulting in comparable downstream treatment use.

CONCLUSIONS: By accumulating incidence data, stage distribution, disease progression, biomarker prevalence and testing, and treatment utilization and progression, the PRIMCAT-CRC simulation framework provides a new invaluable tool for health technology assessment.

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Acceptance Code:	EPH18
Abstract Title:	Real-World Biomarker Positivity Rates Among Patients with Advanced Non-Small Cell Lung Cancer in the United States
Presenting Author:	Maria Cecilia Vieira

Abstract Body:

OBJECTIVES: Biomarker testing is recommended for patients with an advanced non-small cell lung cancer (aNSCLC) diagnosis, yet the real-world prevalence of these mutations (ALK, BRAF, KRAS, EGFR, ROS1, PD-L1) is not fully known among tested patients. The objectives of this study were to evaluate real-world biomarker positivity rates among patients with aNSCLC and to understand variations by demographic and clinical characteristics.

METHODS: A retrospective analysis of patients diagnosed with aNSCLC between January 2011–July 2021 was performed using the Flatiron Health aNSCLC database. Eligible patients were ≥18 years old, had ≥2 visits in the Flatiron Network, and had ≥2 months of continuous follow-up from the date of advanced diagnosis.

RESULTS: 56,972 patients met the eligibility criteria. Overall positivity rates among tested patients were 3% for ALK, 5% for BRAF, 27% for KRAS, 15% for EGFR, 1% for ROS1, and 16% for PD-L1. Positivity rates varied by: age, sex, race, smoking history, and histology for EGFR and KRAS; by age, race, smoking history, and histology for ALK; by age, race, and histology for BRAF; and by age and smoking history for ROS1. PD-L1 positivity rates did not vary by demographic or clinical characteristics. Patient characteristics associated with high prevalence rates within respective biomarkers include: 21% prevalence of ALK among patients <45 years old (compared to 3% overall) and 53% prevalence of EGFR among Asian patients (compared to 15% overall).

CONCLUSIONS: The occurrence of mutations is variable, with KRAS being the most prevalent and ROS1 being the least prevalent among tested patients. The prevalence of these mutations among patients with aNSCLC highlight the importance of biomarker testing to optimize treatment decisions.

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Acceptance Code:	HSD101
Abstract Title:	Lack of Concordance between Real-World Treatment Patterns and Clinical Guideline Recommendations Among Metastatic Hormone-Sensitive Prostate Cancer (MHSPC) Patients
Presenting Author:	Jamie Partridge
Abstract Body: OBJECTIVES: International prostate cancer treatment guidelines recommend combination therapy regimens as standard of care for mHSPC. This study evaluated global real-world mHSPC treatment patterns, concordance with treatment guidelines, and patient characteristics. METHODS: This retrospective cohort study included mHSPC patients (aged ≥ 18 years) from the US, Germany, France, Japan, and China within the IPSOS Global Oncology Monitor Database (2018-2020). Treatment patterns were described as proportions of patients receiving each regimen at time of data capture. RESULTS: The study included 6,198 mHSPC patients (US 3,893, Germany 867, France 513, Japan 641, and China 284). Among monotherapies, androgen deprivation therapy (ADT) was most frequently prescribed (20.3%-58.1%) in each country except China where first-generation androgen receptor inhibitors (FGARI) were most common. Top combination therapies were FGARI + ADT (67.2% in Japan, 54.6% in China, and 13.7% in the US); abiraterone + ADT (17.9% in France); and docetaxel + ADT (11.2% in Germany). Combination therapies with more than two agents were $<1.0\%$. Compared to patients receiving non-docetaxel combinations (ADT + second-generation androgen receptor inhibitors (SGARI) or FGARI or abiraterone), docetaxel + ADT patients were younger (aged ≥ 70 years: 37.9% vs 68.8%), had more advanced disease (Gleason score 8-10: 78.0% vs. 60.6%, bone metastasis: 96.6% vs. 78.6%), but were better functioning (ECOG score 0-1: 92.4% vs. 85.4%). Top comorbidities were hypertension (58.7% vs. 55.9%), cardiovascular disease (20.1% vs. 24.4%), and diabetes (16.3% vs. 24.4%) for the respective populations. CONCLUSIONS: Among a global sample of mHSPC patients, the most common treatment was ADT monotherapy despite guidelines recommending early treatment intensification with addition of either novel anti-androgens or docetaxel. Docetaxel + ADT continues to be an important standard of care. These findings highlight the discrepancy between guideline-recommended and recent real-world treatment patterns for mHSPC and the need for early treatment intensification to improve patient outcomes.	

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Acceptance Code:	EE308
Abstract Title:	Real-World Treatment Patterns and Costs in Relapsed and Refractory Diffuse Large B-Cell Lymphoma in the United States
Presenting Author:	Alex Mutebi

Abstract Body:

OBJECTIVES: To examine real-world treatment patterns, healthcare resource utilization and costs among third-line (3L) relapsed and refractory (R/R) diffuse large B-cell lymphoma (DLBCL) patients in the United States.

METHODS: A retrospective claims analysis was carried out using the IBM® MarketScan® Database (Jan 2015-Dec 2019) to assess treatment patterns and costs among adult DLBCL patients receiving 3L treatment. A diagnosis of DLBCL (ICD10 C83.X), > 12 months pre-diagnosis baseline data with no anti-cancer treatments or other primary cancers, and >3 months follow-up data were required for inclusion. Treatments received in 3L, time to next therapy (TTNT) and % receiving subsequent treatments are described. Healthcare resource utilization (HCRU) and costs while on treatment are reported on a per patient per month (PPPM) basis.

RESULTS: A total of 133 3L DLBCL patients met inclusion criteria with a median follow-up of 5.7 months. Median [IQR] patient age was 57 [50, 62] years and 59% were male. Commonly received 3L therapies were chemotherapy combination/monotherapy (20%), autologous stem cell transplant (20%), rituximab containing therapies (17%), radiotherapy combination (11%) and a multitude of other treatments and combinations. Median TTNT was 4.4 months and 30% of patients received a 4L, though the follow-up period was limited. As patients advanced from 1L to 3L, the proportion of patients with inpatient stays increased (32% to 43%, respectively). Median PPPM costs more than doubled from 1L to 3L, increasing as patients advance through lines of therapy with \$33,669 PPPM in 1L, \$39,300 in 2L and \$72,224 in 3L. Costs were largely driven by inpatient and other medical costs.

CONCLUSIONS: Treatment options in 3L R/R DLBCL are heterogenous with no clear standard of care. As patients advanced to later lines, inpatient stays and PPPM costs increased, underscoring the need for novel therapies to improve care for R/R DLBCL patients.

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Acceptance Code:	EE437
Abstract Title:	Healthcare Resource Utilization and Costs in Patients with Multiple Myeloma Who Received 1 to 3 Prior Lines of Therapy, Including a Proteasome Inhibitor, an Immunomodulatory Drug, and Exposed to (AND DISCONTINUED) Lenalidomide in the United States
Presenting Author:	Eric Chinaeke
Abstract Body: OBJECTIVES: Proteasome inhibitors (PIs) and immunomodulatory drugs (IMiDs) have significantly improved survival in Multiple Myeloma (MM) patients, but patients continue to progress or become refractory to these treatments, requiring the use of additional lines of therapy (LOTs). This retrospective study assessed real world healthcare resource utilization (HCRU) and subsequent costs in MM patients in the United States, after receiving 1-3 LOTs, exposed to a PI and an IMiD, and exposed to (and discontinued) lenalidomide. METHODS: Eligible MM patients (≥ 18 years) were selected from IBM MarketScan Commercial and Medicare supplemental databases (January 2012-April 2021). The study population included patients who received ≥ 1 subsequent LOT after January 1, 2017 (to reflect contemporary healthcare costs). A subgroup of patients with at least 12 months of follow-up after initiating the subsequent LOT was assessed as a sensitivity analysis. RESULTS: The study population included 607 MM patients; the mean age was 60.0 years and 59.0% were male. During a median follow-up of 11.5 months, for all-cause healthcare use, there were an average of 1.60 in-patient hospitalizations, 12.7 days of in-patient hospital stay, and 55.4 outpatient visits. Mean total all-cause healthcare costs per patient was \$405,999 (equivalent to \$37,516 per patient per month [PPPM]). MM-related costs per patient accounted for 93.1% (\$378,115) of total all-cause healthcare costs. In the subgroup of patients with at least 12 months of follow-up (N=293, median follow-up of 21.6 months), the mean total all-cause healthcare costs per patient was \$623,002 (equivalent to \$30,716 PPPM). CONCLUSIONS: In this database study using US administrative claims, MM patients with exposure to PI and IMiD drug classes and receiving subsequent MM treatments continue to incur high healthcare costs, with the majority of these costs being MM-related.	