Healthcare resource utilization and costs of poly(ADP-ribose) polymerase inhibitors as first-line maintenance treatment for ovarian cancer

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In this real-world analysis of US patients with OC, HCRU and mean medical costs were relatively low in the 6 months after initiation of 1LM treatment with PARPi monotherapy

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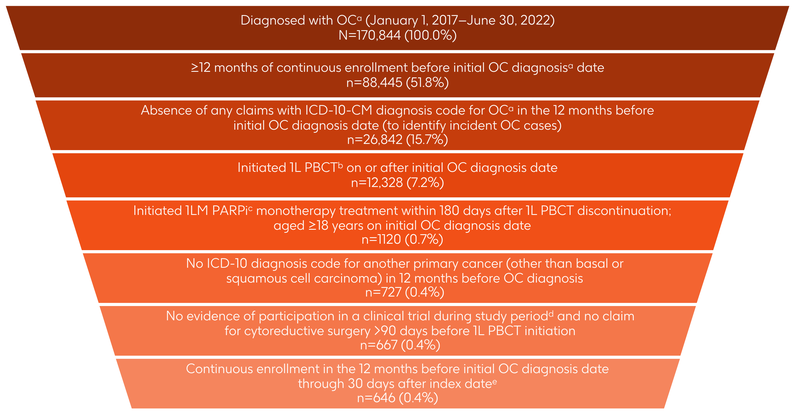
Aim

- The objective of this real-world study was to examine HCRU and healthcare costs for US patients with OC receiving 1LM treatment with PARPi monotherapy after 1L PBCT

Study design

- In this noninterventional, retrospective study, data from the 100% Medicare Fee-for-Service database and the MORE^2 Registry of closed claims were used
- The index date was defined as the date of 1LM PARPi monotherapy initiation
- All-cause HCRU and healthcare costs were summarized descriptively during the baseline and follow-up periods

Figure 1: Patient eligibility criteria and attrition

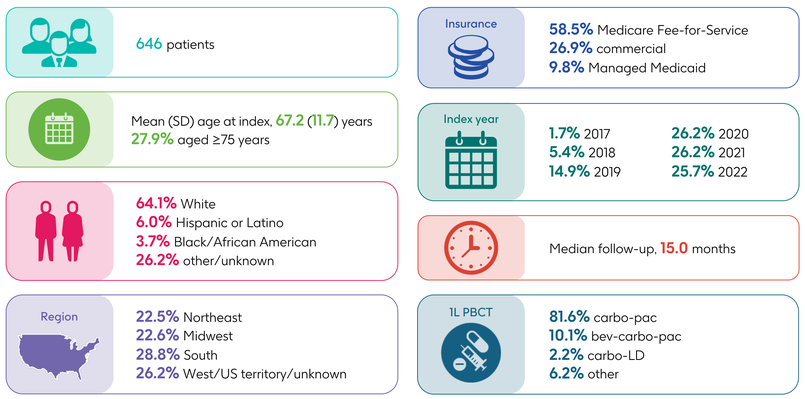


[a]Based on the presence of ICD-10-CM diagnosis codes for ovarian, fallopian tube, or peritoneal cancer. [b]Includes cisplatin, carboplatin, and oxaliplatin. [c]Includes niraparib, olaparib, or rucaparib. [d]Based on the presence of specific ICD-10 codes for clinical trial enrollment. [e]Defined as 1LM PARPi monotherapy treatment initiation date.
1L, first-line; 1LM, first-line maintenance; ICD-10(-CM), International Classification of Diseases-Tenth Revision(-Clinical Modification); OC, ovarian cancer; PARPi, poly(ADP-ribose) polymerase inhibitor; PBCT, platinum-based chemotherapy.

Demographics

- Among 646 eligible patients, mean (SD) age at index was 67.2 (11.7) years. Most patients were White (64.1%) and insured under Medicare Fee-for-Service (58.5%; Figure 2)

Figure 2: Demographics and clinical characteristics



1L, first-line; bev, bevacizumab; carbo, carboplatin; LD, liposomal doxorubicin; pac, paclitaxel.

Results

HCRU and healthcare costs

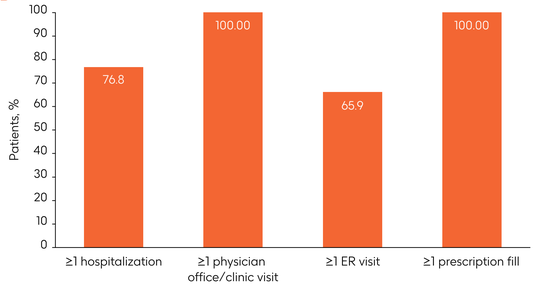
- In the 12 months before 1LM PARPi initiation, 496 patients (76.8%) had ≥1 hospitalization, 646 (100.0%) had ≥1 physician office/clinic visit, and 426 (65.9%) had ≥1 ER visit (Figure 3)
- In the 6 months after 1LM PARPi monotherapy initiation, 100 patients (15.5%) had ≥1 hospitalization, 642 (99.4%) had ≥1 physician office/clinic visit, and 199 (30.8%) had ≥1 ER visit (Figure 4)

Figure 3: Mean HCRU per patient (A) and percentage of patients with ≥1 HCRU (B) during the 12-month baseline period

A

HCRU per patient, mean (SD)	Baseline period
No. of hospitalizations	1.2 (1.1)
Hospitalization duration, days	5.7 (3.8)
No. of physician office/clinic visits	21.4 (9.9)
No. of ER visits	1.9 (2.5)
No. of prescription fills	19.8 (11.1)

B



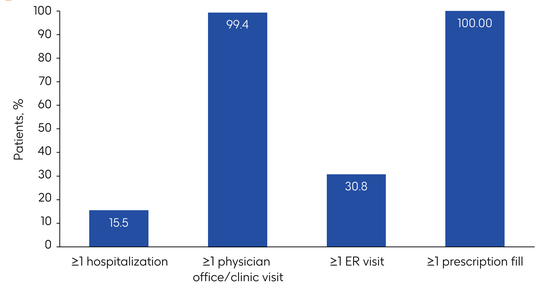
ER, emergency room; HCRU, healthcare resource utilization.

Figure 4: Mean HCRU per patient (A) and percentage of patients with ≥1 HCRU (B) during the 6 months after initiation of 1LM treatment with PARPi monotherapy

A

HCRU per patient, mean (SD)	Posttreatment index period
No. of hospitalizations	0.2 (0.6)
Hospitalization duration, days	5.4 (3.5)
No. of physician office/clinic visits	9.9 (5.8)
No. of ER visits	0.7 (1.4)
No. of prescription fills	10.0 (6.6)

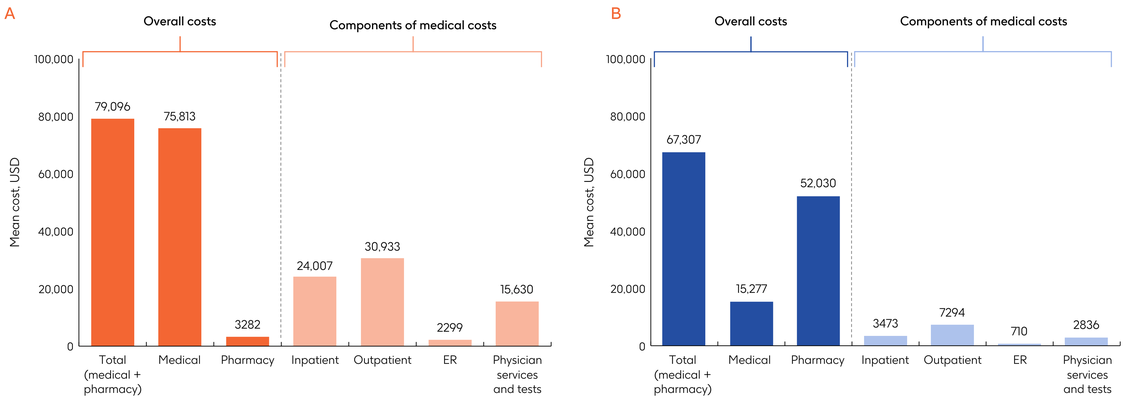
B



1LM, first-line maintenance; ER, emergency room; HCRU, healthcare resource utilization; PARPi, poly(ADP-ribose) polymerase inhibitor.

- During the 12-month baseline period, mean (SD) total per-patient healthcare costs (medical + pharmacy) were $79,096 ($55,317), medical costs alone were $75,813 ($54,029), and pharmacy costs alone were $3282 ($7304; Figure 5A)
- During the 6 months after treatment initiation, mean (SD) total per-patient healthcare costs (medical + pharmacy) were $67,307 ($41,434), medical costs alone were $15,277 ($22,036), and pharmacy costs alone were $52,030 ($36,976; Figure 5B)

Figure 5: All-cause healthcare costs during the 12-month baseline period (A) and in the 6 months after initiation of 1LM PARPi monotherapy (B)



Post-acute care and durable medical equipment costs also contributed to total medical costs but are not depicted in this figure.
1LM, first-line maintenance; ER, emergency room; PARPi, poly(ADP-ribose) polymerase inhibitor; USD, US dollar.

Background

- Standard-of-care for patients with newly diagnosed advanced OC includes primary or interval cytoreductive surgery with PBCT ± bevacizumab[1]
- For patients who have a complete or partial response to 1L PBCT, maintenance treatment with a PARPi ± bevacizumab is recommended[1,2]
- Two PARP inhibitors—niraparib and olaparib—are approved in the US for the 1LM treatment of patients with advanced OC[3,4]
  - Niraparib is approved as 1LM regardless of biomarker status[3]
  - Olaparib is approved as 1LM for patients with *BRCA1/2*-mutated tumors, and olaparib + bevacizumab is approved as 1LM for patients with HRD-positive tumors[4]
  - Although rucaparib is recommended by ASCO for use as 1LM treatment of advanced OC, irrespective of biomarker status,[2] the current US FDA approval for rucaparib in OC is only in the recurrent setting[5]
- While PARPis have been approved for 1LM in the US since 2018, real-world data on HCRU and costs for patients with OC in the post-PARPi approval period are scarce

Conclusions

1LM treatment with PARPi monotherapy appears to be reasonably well tolerated; 15.5% of patients had a hospitalization claim and 30.8% an ER claim within the first 6 months of initiating therapy

Our results may not be generalizable to patients receiving different treatments in the 1L or 1LM settings or to those covered by other types of insurance

In this US-based real-world analysis, HCRU and mean medical costs were relatively low in the 6 months after initiation of 1LM PARPi monotherapy for patients with OC

Abbreviations

1L, first-line; 1LM, first-line maintenance; ASCO, American Society of Clinical Oncology; bev, bevacizumab; carbo, carboplatin; ER, emergency room; FDA, Food and Drug Administration; HCRU, healthcare resource utilization; HRD, homologous recombination deficiency; ICD-10(-CM), International Classification of Diseases-Tenth Revision(-Clinical Modification); LD, liposomal doxorubicin; OC, ovarian cancer; pac, paclitaxel; PARPi, poly(ADP-ribose) polymerase inhibitor; PBCT, platinum-based chemotherapy.

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Disclosures

J Hartman, **J Lim**, and **JA Hurteau** are employees of GSK and hold financial equities in GSK. **A Kalayjian** is a postdoctoral fellow sponsored by GSK. **L Moore-Schiltz**, **J Tkacz**, and **K Wilson** are employees of Inovalon and were contracted by GSK to conduct the analysis reported herein.

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