Increased Healthcare Costs and Resource Utilization Following Progression in Patients With HR+/HER2- Metastatic Breast Cancer Receiving Chemotherapy

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KEY FINDINGS

This study reports contemporary estimates of healthcare costs and healthcare resource utilization (HCRU) in patients with HR+/HER2- (HER2 IHC 0 and HER2-low) metastatic breast cancer (mBC) treated with chemotherapy following progression on at least two lines of endocrine therapy (ET)-based treatment or with primary endocrine resistance

- Disease progression was associated with a marked increase in healthcare costs, largely driven by other non-BC-treatment medical expenses, which accounted for 61.4% of the incremental post-progression costs
- A substantial increase in inpatient burden was observed with disease progression, with mean monthly length of stay nearly three times higher than in the pre-progression period

CONCLUSION

These findings fill an HCRU and cost evidence gap and underscore the need for therapies that delay progression and reduce the associated economic burden among patients with HR+/HER2- (HER2 IHC 0 and HER2-low) mBC treated with chemotherapy

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Supplemental Table 1a. Monthly all-cause healthcare costs – Commercial perspective, 2024 USD

	Index treatment costs (PPPM)											*Post-index treatment costs (all later lines; PPPM)*						
	Costs on-treatment[a], mean ± SD						Costs off-treatment[b], mean ± SD					Costs[c], mean ± SD						
	Number of patients[d]	BC treatment	Other OP visits	Other IP stays	Other ED visits	Other pharmacy	Number of patients	OP visits	IP stays	ED visits	Pharmacy	Number of patients	BC treatment[e]		Other OP visits	Other IP stays	Other ED visits	Other pharmacy
													Including T-DXd costs	Excluding T-DXd costs				
Patients initiating single-agent chemotherapy	N = 546	$2,464 ± $7,510	$5,602 ± $6,289	$3,548 ± $14,997	$196 ± $636	$381 ± $1,170	391 (71.6%)	$6,570 ± $9,878	$6,198 ± $16,393	$299 ± $1,212	$366 ± $1,580	312 (57.1%)	$8,109 ± $8,376	$5,711 ± $6,535	$8,564 ± $9,035	$4,895 ± $10,315	$340 ± $719	$1,664 ± $15,810

Supplemental Table 1b. Monthly all-cause healthcare costs – Medicare perspective, 2024 USD

	Index treatment costs (PPPM)											*Post-index treatment costs (all later lines; PPPM)*						
	Costs on-treatment[a], mean ± SD						Costs off-treatment[b], mean ± SD					Costs[c], mean ± SD						
	Number of patients[d]	BC treatment	Other OP visits	Other IP stays	Other ED visits	Other pharmacy	Number of patients	OP visits	IP stays	ED visits	Pharmacy	Number of patients	BC treatment[e]		Other OP visits	Other IP stays	Other ED visits	Other pharmacy
													Including T-DXd costs	Excluding T-DXd costs				
Patients initiating single-agent chemotherapy	N = 181	$1,760 ± $7,858	$3,109 ± $3,643	$1,232 ± $3,782	$143 ± $537	$340 ± $543	144 (79.6%)	$3,109 ± $4,302	$2,296 ± $6,079	$109 ± $369	$619 ± $3,066	79 (43.6%)	$7,180 ± $10,858	$5,639 ± $10,962	$4,985 ± $8,391	$2,013 ± $3,404	$172 ± $279	$630 ± $1,139

Supplemental Table 2a. Monthly all-cause healthcare costs by time of death – Commercial perspective, 2024 USD

Time from single-agent chemotherapy initiation to death[f]	Costs[g], mean ± SD						
	Number of patients[d]	BC treatment[e]		Other OP visits	Other IP stays	Other ED visits	Other pharmacy
	N = 546	Including T-DXd costs	Excluding T-DXd costs				
≥360 days	403 (73.8%)	$3,931 ± $5,192	$2,942 ± $4,386	$6,030 ± $5,351	$2,419 ± $5,432	$185 ± $328	$1,132 ± $9,463
From 180 to <360 days	84 (15.4%)	$2,799 ± $4,227	$2,799 ± $4,227	$8,162 ± $7,220	$7,285 ± $8,927	$332 ± $645	$634 ± $1,616
From 90 to <180 days	39 (7.1%)	$2,364 ± $7,497	$2,274 ± $7,510	$6,638 ± $5,603	$15,609 ± $21,872	$604 ± $939	$554 ± $1,544
From 30 to <90 days	18 (3.3%)	$1,356 ± $3,444	$1,356 ± $3,444	$5,554 ± $6,976	$19,235 ± $14,947	$782 ± $1,447	$208 ± $344
<30 days	2 (0.4%)	$2,131 ± $2,698	$2,131 ± $2,698	$7,371 ± $9,580	$43,677 ± $6,986	$0 ± $0	$125 ± $140

Supplemental Table 2b. Monthly all-cause healthcare costs by time of death – Medicare perspective, 2024 USD

Time from single-agent chemotherapy initiation to death[f]	Costs[g], mean ± SD						
	Number of patients[d]	BC treatment[e]		Other OP visits	Other IP stays	Other ED visits	Other pharmacy
	N = 181	Including T-DXd costs	Excluding T-DXd costs				
≥360 days	123 (68.0%)	$2,390 ± $3,397	$1,894 ± $3,295	$3,139 ± $3,391	$1,094 ± $1,842	$108 ± $180	$446 ± $742
From 180 to <360 days	27 (14.9%)	$3,897 ± $12,302	$3,897 ± $12,302	$3,080 ± $1,895	$1,687 ± $2,398	$134 ± $198	$696 ± $1,236
From 90 to <180 days	24 (13.3%)	$843 ± $1,680	$843 ± $1,680	$4,448 ± $4,223	$5,962 ± $6,962	$193 ± $297	$288 ± $324
From 30 to <90 days	7 (3.9%)	$146 ± $104	$146 ± $104	$3,562 ± $3,499	$5,635 ± $8,451	$567 ± $1,033	$140 ± $241
<30 days	0 (0.0%)	–	–	–	–	–	–

BC: breast cancer; ED: emergency department; ET: endocrine therapy; IP: inpatient; mBC: metastatic breast cancer; OP: outpatient; PPPM: per patient per month; SD: standard deviation; T-DXd: trastuzumab deruxtecan; USD: United States Dollar.

Notes:

[a]Healthcare costs for index line of therapy on-treatment were measured from the initiation of the index line of therapy until the earliest of discontinuation of index line of therapy, end of continuous health plan enrollment or April 30th, 2024 (end of data cut), inflated to 2024 USD and reported PPPM.

[b]Healthcare costs for index line of therapy off-treatment were measured among patients who ended the line of therapy and was measured from the discontinuation of the index line of therapy until the earliest of initiation of the next line, end of continuous health plan enrollment or April 30th, 2024 (end of data cut), inflated to 2024 USD and reported PPPM

[c]Healthcare costs for later lines were measured from the initiation of the next line of therapy until the earliest of end of continuous health plan enrollment or April 30th, 2024 (end of data cut), inflated to 2024 USD and reported PPPM.

[d]Includes patient receiving a single agent chemotherapy (index treatment) after ≥2 prior lines of ET-based treatment (with or without targeted agents) or within 6 months of starting first-line ET + CDK4/6i (primary endocrine resistance) in the mBC setting. Single agents included capecitabine, paclitaxel and nab-paclitaxel.

[e]BC-related costs were stratified into costs including trastuzumab deruxtecan and excluding trastuzumab deruxtecan if this agent was received as part of subsequent lines. This allowed for assessment of its contribution to total BC treatment costs and ensured clear attribution of costs across treatment lines in the chemotherapy-pretreated population receiving subsequent-line therapy.

[f]The date of death (truncated to first day of the month/year of death) reported in KRD+ was used for patients with an available date of death. For patients without a reported date of death, the date of death was proxied with medical expert guidance as the earliest of 1) date of the last observed medical or pharmacy claim (open or closed) with ≥3 months prior to the end of data availability, or 2) date of the first death indicator (i.e., death codes, autopsy or necropsy; open or closed claims). Patients without a date of death either directly reported in KRD+ or ascertained using the rules above was considered alive and included in the ≥360 days category.

[g]Healthcare costs were measured from the initiation of the index line of therapy until the earliest of patient death according to the enhanced mortality algorithm or April 30th, 2024 (end of data cut), inflated to 2024 USD and reported PPPM.

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