Real-World Telehealth Utilization and Healthcare Costs in Commercially Insured Women with Breast Cancer: A Claims-Based Study

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Objectives

- Telehealth platforms have become an integral component of patient care, particularly following the onset of the COVID-19 pandemic and the subsequent expansion of telehealth services.
- This study examined patterns of telehealth utilization and associated healthcare costs among nonelderly women with nonmetastatic breast cancer.

Methods

Study Design:
Retrospective cohort study

Data Source:
Merative MarketScan Commercial Encounters claims database (2017–2023)

Eligibility Criteria:
•Women <65 years old
•Commercial insurance coverage
•Diagnosis of nonmetastatic breast cancer
•Continuous enrollment for ≥1 year before diagnosis and 5 years post–endocrine therapy initiation

Measures:
Telehealth usage and healthcare costs were assessed from treatment initiation through a five-year follow-up.
Telehealth was defined as healthcare services delivered remotely via telecommunication technologies.
Cost indicators included patient-level expenses (*deductibles, copayments, and coinsurance*), standardized to 2023 US dollars using the medical care component of the Consumer Price Index.

Analysis:
Statistical analyses were conducted using SAS software (version 9.4 TS1M6).
Significance was set at $p \leq 0.05$.

Results

Table 1: Cohort Characteristics by Telehealth Use

Character	Telehealth User (N=901)	Telehealth Nonuser (N=272)	Total (N=1,173)
Age at diagnosis (p =0.6269)			
Mean years ± SD	51 ± 6	51 ± 6	51 ± 6
Age group (p = 0.4440)			
< 35	11 (92)	1 (8)	12
35-44	103 (73)	38 (27)	141
45-54	481 (77)	142 (23)	623
55-64	306 (77)	91 (23)	397
Region (p =**0.0037**)			
Northeast	160 (79)	42 (21)	202
North Central	209 (72)	82 (28)	291
South	386 (76)	125 (24)	511
West	144 (86)	23 (14)	167
Rurality (p =**0.0127**)			
Urban	717 (79)	194 (21)	911
Rural	79 (68)	37 (32)	116
Unknown	105 (72)	41 (28)	146
Plan type (p =0.1059)			
PPO	396 (75)	130 (25)	526
HMO	161 (84)	31 (16)	192
CDHP	126 (73)	47 (27)	173
HDHP	115 (78)	33 (22)	148
Others	89 (77)	27 (23)	116
Comorbidity (CCI score) (p < **0.0001**)			
Mean score ± SD	3 ± 1	2 ± 1	3 ± 1
Comorbidity (CCI score) (p = **0.0060**)			
0-1	0	0	0
2-3	808 (76)	261 (24)	1,069
4-5	54 (90)	6 (10)	60
> 5	39 (89)	5 (11)	44
Endocrine treatment (p =**0.0017**)			
Tamoxifen	291 (74)	100 (26)	391
Aromatase inhibitors	284 (73)	105 (27)	389
Switchers	326 (83)	67 (17)	393

All values are expressed as number (row %) unless otherwise noted.
CCI: Charlson Comorbidity Index; CDHP: Consumer-Driven Health Plan; HDHP: High-Deductible Health Plan; HMO: Health Maintenance Organization; PPO: Preferred Provider Organization; SD: standard deviation

Table 2: Cost Summary (USD) Over 5 Years

Measure	Mean	Total
Outpatient medical costs	$7,365	$8,639,399
Inpatient medical costs	$851	$247,601
Total medical costs	$7,576	$8,887,000
Endocrine prescription costs	$172	$201,353
Total prescription costs	$1,861	$2,182,507
USD: United States dollar		

Telehealth users incurred higher out-of-pocket costs for both medical services and prescriptions compared to nonusers.

Conclusion

- Telehealth utilization among nonelderly women with breast cancer varied by geographic, clinical, and treatment-related factors during the pandemic.
- The financial burden associated with telehealth adoption underscores the need for further evaluation to promote equitable access and affordability.

References

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