

Cost of Non-Melanoma Skin Cancer Care in the U.S.- An Analysis from Medicare Population

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INTRODUCTION

Non-melanoma skin cancer (NMSC) is the most common cancer in the U.S.; however, limited information exists on the cost of NMSC treatments. This study estimate the average cost of NMSC among Medicare fee-for-service (FFS) patients using longitudinal data from 2010 to 2020.

METHODS

• Data Sources:

We used 2009-2020 5% Medicare Standard Analytic Files for inpatient, outpatient, and physician services to identify incident patients and related costs.

• Sample Selection:

We selected beneficiaries in FFS Medicare who were newly diagnosed with NMSC between January 1, 2010, and December 31, 2010. We excluded beneficiaries with a NMSC diagnosis during a year before their first diagnosis in 2010. We also excluded beneficiaries who died within 12 months after the index date.

• Cost Analysis:

We classified services received by NMSC patients into several treatment modalities. We estimated total costs for a patient over the disease period and repriced the costs of received services using the 2020 Medical Consumer Price Index. We calculated average costs of care by each modality and setting on both per month and per year bases.

RESULTS

- There was a nationalized estimate of 1.2 million Medicare beneficiaries with NMSC in 2010.
- In the first year of treatment, the total cost of NMSC care was \$1.8 billion. Most NMSC patients received services in physicians' offices with an average cost of \$1,300 in their first year of treatment, whereas the average spending in outpatient and inpatient setting were approximately \$1,100 and \$13,000, respectively.
- Although the number of patients who received NMSC treatment dropped by 7 percent to 11 percent during later follow-up years, changes in the average cost of care throughout the study period were marginal.

RESULTS (Cont)

Table 1. Average Medicare Payment for NMSC Patients Who Survived

Setting	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Inpatient	\$13,205	\$11,856	\$16,448	\$11,465	\$13,462	\$18,757	\$16,213	\$14,069	\$14,364	\$11,776
Outpatient	\$1,134	\$1,035	\$990	\$1,025	\$1,070	\$1,275	\$1,098	\$1,129	\$1,276	\$1,210
Carrier	\$1,300	\$821	\$845	\$834	\$875	\$823	\$819	\$819	\$866	\$882

Note: Patients who received services in all three settings were omitted in Table 1.

Table 2. Estimated Part D Drug Costs for NMSC Patients Who Survived

Type of Drug	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
NMSC-related	\$752	\$621	\$541	\$459	\$389	\$330	\$280	\$238	\$202	\$171
Other	\$3,640	\$3,839	\$4,155	\$4,375	\$4,652	\$4,946	\$5,259	\$5,592	\$5,945	\$6,321

Table 3. Treatment Modalities with Highest Spending by Setting

	Treatment Modality	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Physician Office	Radiation Treatment	\$2,631	\$2,399	\$2,750	\$3,429	\$3,065	\$2,645	\$3,032	\$3,026	\$4,197	\$3,663
	Mohs Surgery	\$1,685	\$1,693	\$1,724	\$1,583	\$1,627	\$1,537	\$1,529	\$1,475	\$1,451	\$1,435
	Skin Replacement	\$1,614	\$1,496	\$1,581	\$1,437	\$1,406	\$1,354	\$1,332	\$1,337	\$1,231	\$1,128
	Tissue Transfer	\$1,483	\$1,546	\$1,549	\$1,464	\$1,413	\$1,448	\$1,377	\$1,348	\$1,322	\$1,309
Outpatient	Radiation Treatment	\$2,778	\$2,893	\$2,251	\$2,477	\$3,487	\$7,210	\$7,209	\$8,125	\$7,290	\$5,474
	Mohs Surgery	\$819	\$1,037	\$997	\$787	\$697	\$716	\$672	\$724	\$632	\$686
	Skin Replacement	\$1,862	\$1,800	\$1,689	\$2,087	\$2,217	\$1,933	\$2,085	\$1,440	\$1,211	\$2,213
	Tissue Transfer	\$1,926	\$2,112	\$2,111	\$2,008	\$2,443	\$2,588	\$2,647	\$2,035	\$2,808	\$1,912

- Radiation treatment, Mohs surgery, skin replacement and tissue transfer accounted for the greatest percentage of money spent to treat NMSC in the first year of follow-up.

DISCUSSION

- As the disease progressed to a chronic stage, we did not observe any significant changes in average spending for treating NMSC patients with Medicare coverage.
- Radiation treatment, Mohs surgery, skin replacement and tissue transfer produced the most financial burden to patients in the first year of treatment out of all treatment modalities.
- Estimated Part D cost for NMSC-related drugs decreased over time, whereas there was an upward trend in the cost of non-NMSC drugs.

CONCLUSION

As NMSC was managed primarily in office-based settings, the cost of NMSC treatment was relatively low compared to other cancers. Our study was limited to Medicare FFS beneficiaries; thus, future research examining other insurance types is needed to generate a comprehensive analysis of NMSC spending.

ACKNOWLEDGEMENT

This project was supported by GenesisCare.