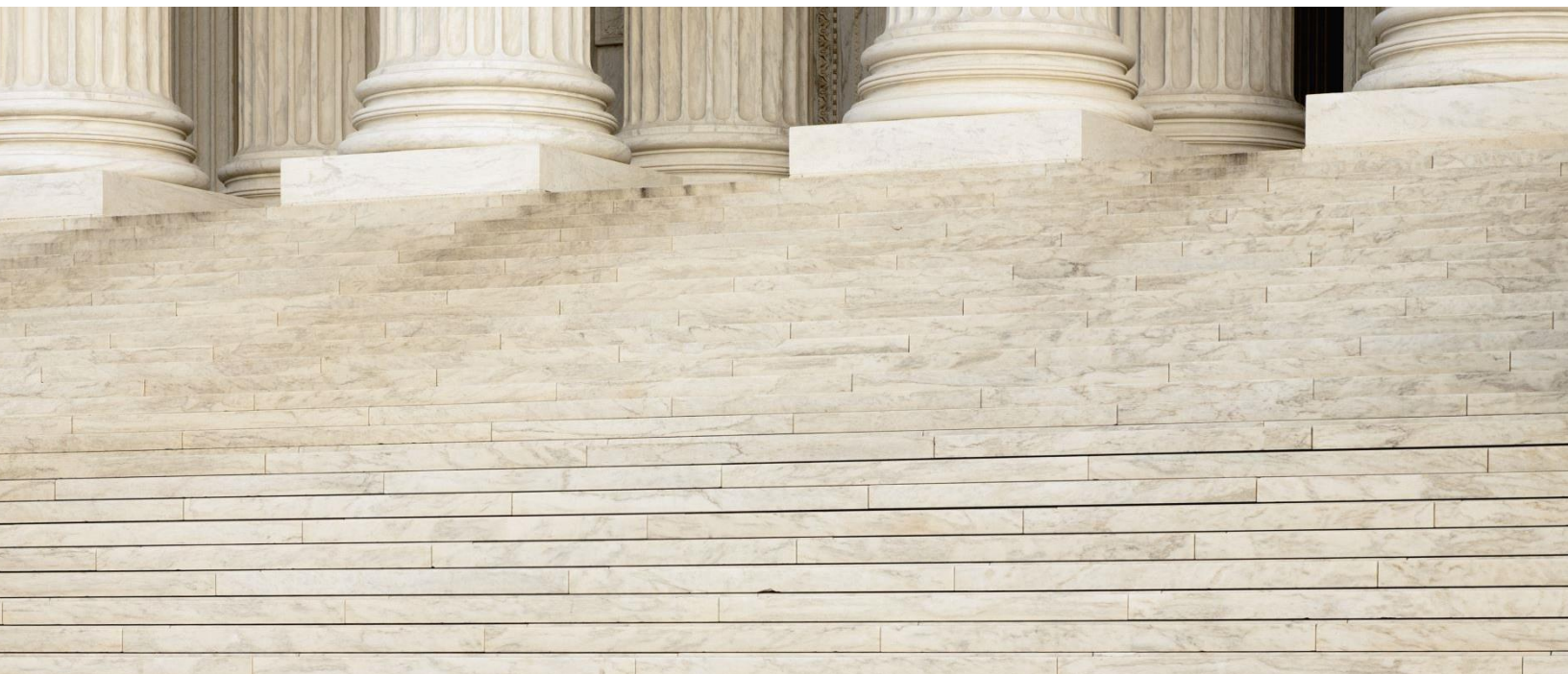


# Fiscal Implications of Image-Guided Superficial Radiation Therapy for Non- Melanoma Skin Cancer

**Local Coverage Determination on IG-SRT and its implications**

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## INTRODUCTION

Non-melanoma skin cancer (NMSC) patients may have their condition addressed by several treatment modalities. These include Mohs surgery, superficial radiation therapy (SRT), image-guided superficial radiation therapy (IG-SRT), and linear accelerator External Beam Radiation Therapy (LINAC EBRT). Recent proposed local coverage determinations (LCDs) from the Medicare Administrative Contractors (MACs) have addressed one of these modalities – IG-SRT, which is typically used for NMSC patients for whom surgical intervention is contraindicated. These LCDs have made it likely that IG-SRT patients will be treated with other modalities as a result of the coverage barriers created by these LCDs. We were asked by our client, SkinCure Oncology, to estimate the fiscal impact to the Medicare program of moving NMSC cases from IG-SRT to other modalities of care.

## KEY FINDINGS

- We estimate that 24,000 NMSC lesions were treated by IG-SRT in the Medicare FFS population in 2024
- Our model assumes these cases will now be treated with SRT, Mohs, and LINAC EBRT
- In the first modeled scenario, which assigned all IG-SRT cases to non-surgical modalities (SRT and LINAC EBRT):
  - We estimate that under this scenario net Medicare FFS expenditures will increase by \$176M in the first year of implementation.
  - This would result in a projected ten year cost of \$2.6B, which would be borne by both the Medicare FFS program and by beneficiaries through increased cost-sharing
- In the second modeled scenario, which assigned half of IG-SRT cases to non-surgical modalities and half to Mohs surgery:
  - We estimate that under this scenario net Medicare FFS expenditures will increase by \$68M in the first year of implementation.
  - This would result in a projected ten year cost of \$1.0B, which would be borne by both the Medicare FFS program and by beneficiaries through increased cost-sharing
- We thus estimate that these LCDs are likely to increase federal and beneficiary spending over the next ten years after implementation.

## METHODOLOGY

We began by estimating the total number of IG-SRT lesions treated in Medicare FFS and found approximately 19,000 patients treated with IG-SRT and SRT in 2024. We estimated 71% of SRT/IG-SRT

cases to be IG-SRT in 2024.<sup>1</sup> Using an assumption of 1.79 lesions per treatment for IG-SRT<sup>2</sup> and 1.18 lesions per treatment for SRT<sup>3</sup> we estimate that 24,000 NMSC lesions were treated in Medicare FFS using IG-SRT in 2024. Thus a per episode cost for IG-SRT can be calculated at \$9,222 per case or \$5,152 per lesion treated. We used per lesion figures for comparison to other treatment modalities to ensure an apples-to-apples comparison. We then considered the cost of alternative therapies which might replace IG-SRT post-LCD implementation. Using the same method above with a per beneficiary cost of \$4,484 and 1.18 lesions per beneficiary, we estimated the cost of SRT at \$3,800 per lesion. We next used the Medicare Standard Analytic Files to analyze the cost of Mohs surgery and LINAC EBRT. In the case of Mohs surgery, we considered both cases with subsequent reconstructive procedures and/or skin substitute treatments separately from the more common scenario of Mohs surgery without reconstructive procedures. We classified Mohs surgery cases requiring skin transfers, partial or full thickness skin grafts, or skin substitutes as “significant repair”. We classified all Mohs surgery cases requiring only wound repair (HCPCS 12001 – 13152) as “without significant repair.” Table 1 presents the cost per lesion data included in our model.

**Table 1. Cost per Lesion by Treatment Modality**

<b>Treatment Modality for NMSC</b>	<b>Number of NMSC Lesions Treated in 2024<sup>^</sup></b>	<b>Estimated Cost per lesion for the Procedure and related follow-up</b>
Image-Guided Superficial Radiation Therapy (IG-SRT)	23,981	\$ 5,152
Superficial Radiation Therapy (SRT)	6,676	\$ 3,800
Mohs Micrographic Surgery Cases	603,273	\$ 2,280
Mohs cases requiring post-Mohs reconstructive surgery	223,106	\$ 6,687
Linear Accelerator electron beam radiotherapy (LINAC EBRT)	6,480	\$ 21,203

<sup>^</sup>HMA National Estimate using 5% Standard Analytic File, IG-SRT and SRT case counts carried over from 2023

We next considered which modalities would be used to treat IG-SRT cases if this modality were no longer utilized following the LCD implementation. We modeled two scenarios. The first scenario re-assigned these cases to both SRT and LINAC in proportion to their current share of NMSC cases, since IG-SRT patients are typically not surgical intervention candidates<sup>4</sup> and SRT and LINAC are other non-surgical treatment options. We do not have data to estimate whether current market capacity could support these treatment

<sup>1</sup> Analysis by the Wells Health Group was used to determine the split between IG-SRT and SRT in the Medicare FFS population

<sup>2</sup> Yu L, et al. The Treatment of Non-Melanoma Skin Cancer with Image-Guided Superficial Radiation Therapy: An Analysis of 2917 Invasive and In Situ Keratinocytic Carcinoma Lesions. *Oncol Ther.* 2021;9(1):153-166.

<sup>3</sup> Madorsky SJ, Meltzer OA, Miller A. Superficial Radiotherapy: Long Term Follow-Up of Highly Selected Basal and Squamous Cell Carcinomas in Skin Cancer Patients. *J Dermatol & Skin Sci.* 2022;4(4):1-5

<sup>4</sup> 2021 American Academy of Dermatology Position Statement on Superficial Radiation Therapy for Basal Cell Carcinoma (BCC) and Squamous Cell Carcinomas (SCC), revised November 6, 2021

volumes in either modality. The net effect of this scenario would be to increase one year spending for NMSC treatment by \$176M and ten-year spending by \$2.6B.

We modeled an alternative scenario that assigned half of IG-SRT cases to Mohs surgery and half of cases to the other non-surgery alternatives. We assumed that the IG-SRT cases assigned to Mohs surgery would result in significant repair being needed at the same rate as the current Mohs cases in the Medicare FFS population. The net effect of scenario two would result in a one-year increase in Medicare spending of \$68M and a ten-year spending increase of \$1.0B.

Ten-year spending effects were projected by extrapolating the calculated one-year spending effects to a ten-year forecast window using the Congressional Budget Office’s (CBO) ten-year Medicare spending projection. Table 2 presents the results of our modeled scenarios.

**Table 2. Modeled Impacts of LCDs restricting IG-SRT as a treatment modality for NMSC in Medicare FFS**

	2024 Cost Estimate	10-Year Cost Estimate
Total Cost, All Modalities at 2024 volumes	\$ 3,153,833,951	\$ 46,522,204,604
Total Cost if IG-SRT cases spread evenly among other non-surgical modalities	\$ 3,330,082,742	\$ 49,122,050,525
Total Cost if IG-SRT cases spread half surgical and half non-surgical	\$ 3,221,787,815	\$ 47,524,592,057

## CONCLUSION

We estimate that the LCDs reducing IG-SRT utilization in the NMSC marketplace will likely result in a net increase in spending by both the Medicare program and its beneficiaries. The precise amount of the increase will depend on which modalities are used to replace the cases currently treated using IG-SRT today. It is possible that capacity constraints may limit the ability of beneficiaries to access all replacement modalities, particularly non-surgical modalities.