

Association of Head and Neck Melanoma Resection Delivery Context with Medicare Claim Payment Variation

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BACKGROUND

- Head & neck melanoma (HNM) is managed by surgical resection but cost to Medicare varies by delivery context
- Cost-benefit understanding is important to inform Medicare spending and healthcare expenditure

STUDY OBJECTIVE

- Using fee-for-service (FFS) Medicare claims, we assessed the association of specific delivery contexts with same-day Medicare payment for Mohs micrographic surgery (MMS) and wide local excision (WLE) for HNM

METHODS

Study Design & Setting

- Retrospective Medicare FFS Claims Analysis

Population

- N=5040 MMS/WLE claims (N=4113 beneficiaries)

Inclusion:

- All 2018 – 2021 claims for beneficiaries with ≥1 MMS/WLE claim for HNM in 2018 (identified by CPT and ICD code in claims)

Exclusion:

- Beneficiaries with lymphadenectomy or sentinel lymph node biopsy claim within 7 days of MMS/WLE in 2018
- Claims containing multiple MMS/WLE procedures

Data Collection

- All claims for included beneficiaries across Carrier, Inpatient, Outpatient files

Main Outcomes

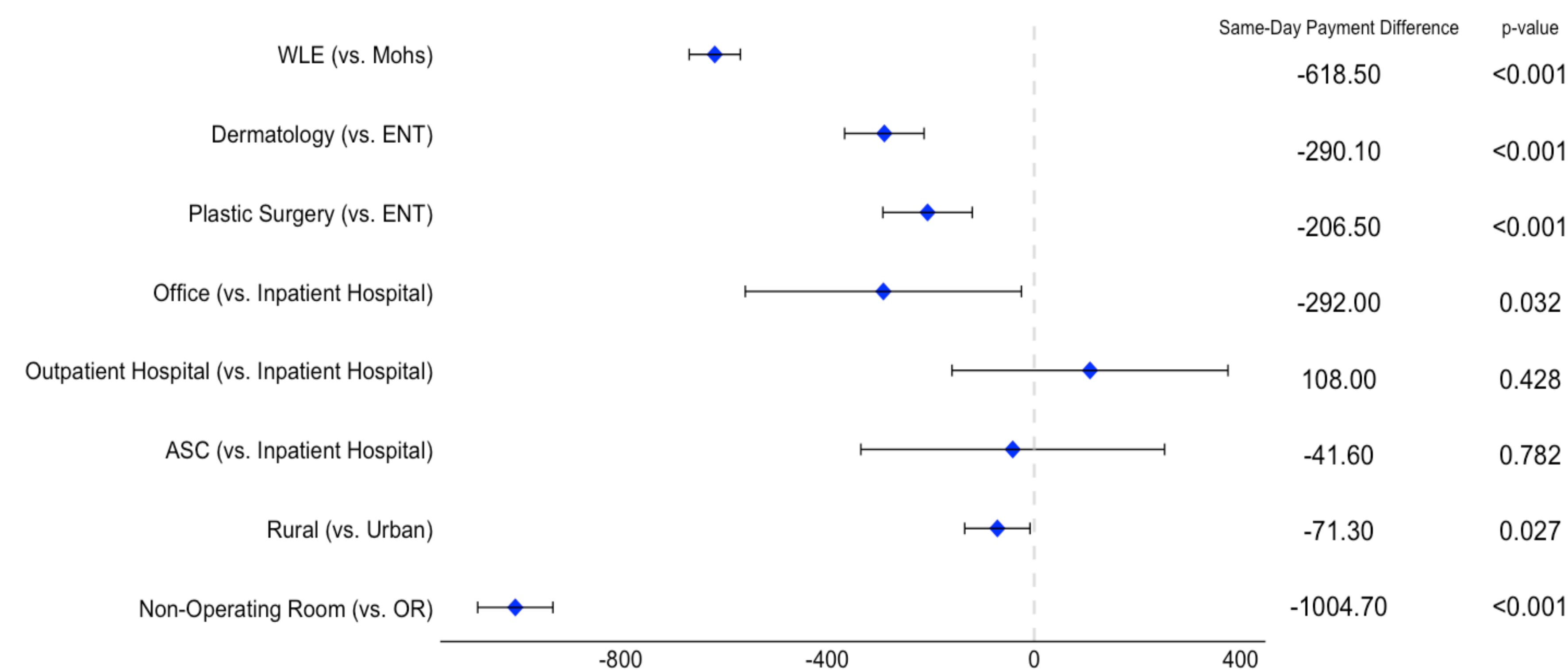
- Same-day Medicare payment amount

Statistical Analysis

- Multivariate linear regression to assess association of cost drivers (e.g., specialty, venue of care) with variation in same-day Medicare payment
- Claim payment difference adjusted for invasive vs. in-situ ICD code category, ICD code, and location of HNM (neck, eye, ear, lip, unspecified)

RESULTS

Differences in Medicare Same-day Payment by Delivery Context (\$)



Linear regression results adjusted for variations in ICD code (specific code, invasive vs. in-situ) and tumor location in addition to delivery context factors (specialty, setting of care, rural vs. urban, OR use) displayed

Beneficiary and Claim Sample Characteristics

Beneficiary Characteristic	Frequency
Gender	
Male	3160 (76.8%)
Female	953 (23.2%)
Race	
White	3995 (97.1%)
Black	4 (0.1%)
Unknown	87 (2.1%)
Other	27 (0.7%)
Age	
<65	65 (1.6%)
65 – 75	1930 (46.9%)
>75	2118 (51.5%)

Claim Characteristic	Frequency	
	Mohs (N=710)	WLE (N=4339)
Setting of Care		
Office	567 (80.9%)	3333 (76.8%)
Outpatient Hospital	134 (19.1%)	900 (20.7%)
Inpatient Hospital		20 (0.5%)
Ambulatory Surgery Center		86 (2.0%)
Operating Specialty		
Dermatology	687 (98.0%)	3035 (70.0%)
Otolaryngology		290 (6.7%)
Plastic Surgery	3 (0.4%)	534 (12.3%)
Other Specialties	11 (1.6%)	480 (11.0%)
Operating Room Use		
Non-Operating Room	656 (93.6%)	3819 (88.0%)
Operating Room	45 (6.4%)	520 (12.0%)
Rural vs. Urban Location		
Rural	673 (96.0%)	350 (8.1%)
Urban	28 (4.0%)	3985 (91.8%)
Unknown		4 (0.1%)
HNM Tumor Location		
Invasive Disease	144 (20.5%)	1408 (32.4%)
Lip	2 (1.4%)	7 (0.5%)
Eyelid	5 (3.5%)	20 (1.4%)
Ear	15 (10.4%)	130 (9.2%)
Unspecified Face	88 (61.1%)	663 (47.1%)
Scalp & Neck	34 (23.6%)	588 (41.8%)
In situ Disease	557 (79.5%)	2931 (67.6%)
Lip	5 (0.9%)	20 (0.7%)
Eyelid	22 (4.0%)	30 (1.0%)
Ear	42 (7.5%)	224 (7.6%)
Unspecified Face	360 (64.6%)	1695 (57.8%)
Scalp & Neck	128 (23.0%)	962 (32.8%)



CONCLUSIONS

- Controlling for other cost drivers, HNM resection by dermatology, outside operating rooms, and in physician offices was associated with lower same-day Medicare cost compared to alternative delivery contexts
- Claim and beneficiary sample characteristics were directionally consistent with breakdown expected in clinical practice
- Further analysis ongoing to understand payment breakdown by facility vs. professional vs. other costs, as well as whether there are differences in clinical outcome across contexts

LIMITATIONS

- Purpose of claims is to inform reimbursement, so capture of clinical characteristics of resection is limited
- Potential for missing HNM Mohs/WLE volume due to Medicare file type differences and incomplete ICD/CPT code use

IMPLICATIONS

- Greater understanding of costs surrounding HNM melanoma care better informs cost-benefit assessment of surgical care delivered
- Optimizing procedure delivery context factors such as venue of care and operating specialty selection may drive cost savings to Medicare and cost-benefit implications for HNM resection