Regional Variations in Elective Hand Surgery Performed by Hand Surgeons in the Medicare Population

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Objective

- To investigate the role that geographic region of practice has on hand surgeons' performance of elective hand surgery. We hypothesize that a significant variation in Medicare reimbursement exists among hand surgeons for commonly performed elective hand surgeries based on their primary geographic region of practice.

Methods

- Members with active ASSH membership in 2012 were matched to provider information from Medicare (CMS) database
- Primary state of practice was used to allocate surgeons to one of 10 established CMS geographic regions (Figure I.)
- Raw data was analyzed to determine the most common surgeries performed across all ASSH members.
- Linear regression analysis was performed using data from each surgery of interest performed per region in conjunction with the 2012 Unites States census data. This was used to determine correlations between CMS reimbursement with each region's:
    - Total population
    - Number of ASSH members
    - Number of surgeries performed
- Average reimbursements were compared between geographic regions using ANOVA analysis for each surgery of interest.

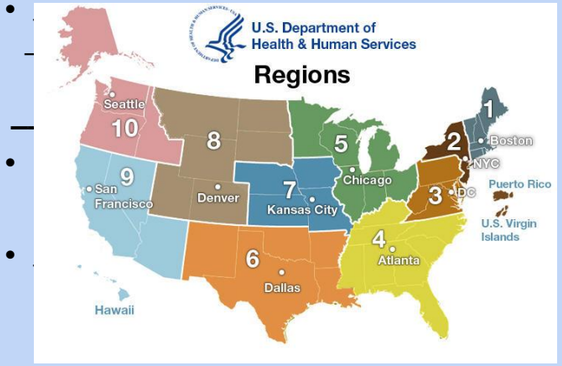

Figure I. CMS Geographical Regions

Table I.

Procedure (Total Performed Across All Regions)	Open CTR (35,320)	Trigger Finger Release (25,044)	Endoscopic CTR (11,292)	CMC Interposition Arthroplasty (3,911)	Ulnar Nerve Transposition or Release (2,068)
Region with Highest Total number of cases performed (No.)	5 (7778)	4 (6330)	4 (2445)	4 (1101)	4 (635)
Region with Highest Number surgeons performing that surgery (No.)	5 (217)	4 (165)	4 (54)	4 (57)	4 (36)
Region with Highest Median number cases per surgeon (No.)	1 (36)	4 (31)	3 (38)	4 (17)	3 (17.5)
Region with Highest Mean CMS Reimbursement per case (in USD)	2 (331.68)	8 (220.19)	1 (396.50)	1 (665.23)	3 (435.27)
Region with Highest Median CMS Reimbursement per case (in USD)	2 (347.44)	2 (202.50)	1 (401.79)	1 (665.65)	3 (440.59)

Table II.

CMS Region	No. Surgeons	Mean total CMS Reimbursement
4	333	$89,128.00
2	162	$76,944.00
3	183	$76,863.00
1	123	$68,725.00
9	184	$63,347.00
6	133	$58,256.00
5	312	$57,082.00
7	73	$51,495.00
8	70	$45,850.00
10	88	$45,159.00

Values in green have statistically significant difference than values in red ($p < 0.0001$)

Conclusions

- Significant geographic variation exists among ASSH members with regards to CMS reimbursement for commonly performed hand surgeries.
- This variation does not appear to be influenced by population demands, but rather due to supply of hand surgeons in a given region.
- This information may be especially useful for hand surgeons looking to optimize reimbursement and/or those who expect to treat a significant proportion of Medicare patients in their own practice.