



Hand Surgery Billing and Utilization Trends Indicate Worsening Barriers to Accessing Care

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Introduction

- Hospitals may increase hand surgery charges in response to decreasing Medicare reimbursements.
- Increasing utilization of ambulatory surgical centers (ASCs) can limit access for uninsured and underinsured patients.
- We aimed to analyze trends in billing practices to understand impacts on disadvantaged patients.**

Methods

- Data Source: 2010-2019 Physician/Supplier Procedure Summary.
- Pertinent Variables: number of procedures, charges, and reimbursements of hand surgery CPT codes.
- Primary Outcomes: weighted means of charges and reimbursement, reimbursement-to-charge ratios (RCRs).**
- Analysis: overall change and r^2 from 2010 to 2019 for all procedures and stratified by procedural type, service setting, and state where service was rendered.

Results

- From 2010 to 2019, **4,014,677** hand surgery procedures were billed to Medicare Part B.
- Weighted mean charges of all hand surgery procedures increased by **+21.0% (from \$1,227 to \$1,485; r^2 0.93)** (Table 1, Figure 1).
- Weighted mean RCRs decreased by 8.4% (from 0.26 to 0.24; r^2 0.76) (Table 1, Figure 1).
- The Medicare enrollment-adjusted number (per million enrollees) of procedures performed in ASCs increased by **63.8% (from 1,345 to 2,202; r^2 0.95)** (Table 1).
- Trends in billing varied widely across different states (Figure 3, Figure 4).

Table 1. Procedural Volume, Charges, Reimbursement, and RCRs of Hand Surgery Procedures: 2010 to 2019

Service Setting	2010	2013	2016	2019	Total Change (%)	r^2
Total, N	7,429	7,759	7,156	6,697	-732 (-9.9%)	0.74
Charge, 2019 USD	1,227	1,277	1,390	1,485	+258 (+21.0%)	0.93
Reimbursement, 2019 USD	321	342	350	356	+35 (+10.8%)	0.69
RCR, 2019 USD	0.26	0.27	0.25	0.24	-0.02 (-8.4%)	0.76
Ambulatory Surgical Center, N	1,345	1,738	1,948	2,202	+857 (+63.8%)	0.95
Inpatient Hospital, N	465	432	345	283	-182 (-39.0%)	0.89
Outpatient Hospital, N	2,371	2,631	2,384	2,209	-162 (-6.8%)	0.55
Others, N	3,249	2,957	2,479	2,003	-1246 (-38.3%)	0.98

Figure 1. Trends in Billing of Hand Surgery Procedures: 2010-2019

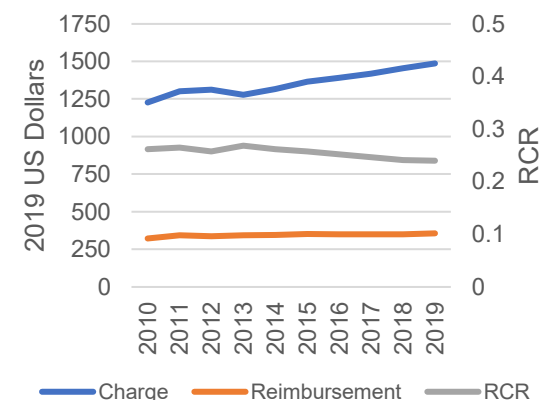


Figure 3. Percent (%) Change in Charge of Hand Surgery: 2010-2019

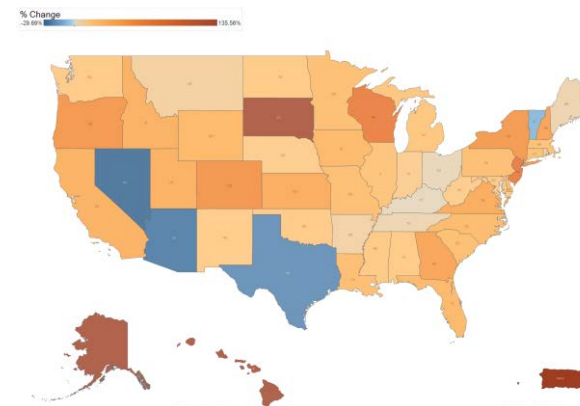


Figure 2. Trends in Hand Procedural Volume by Settings: 2010-2019

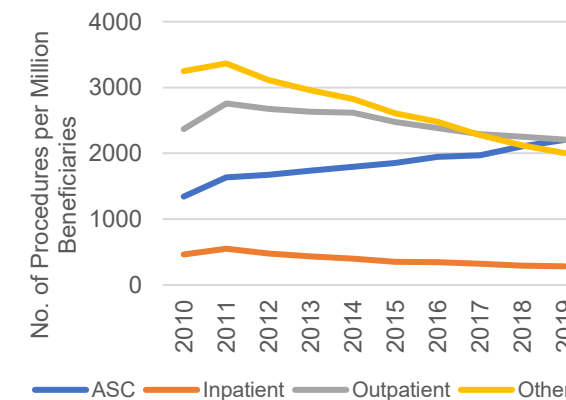
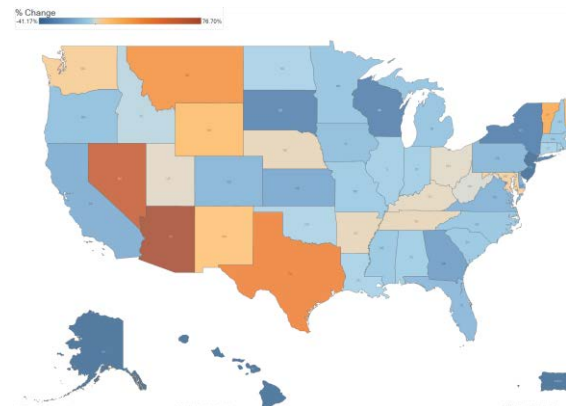


Figure 4. Percent (%) Change in RCR of Hand Surgery: 2010-2019



Limitations

- We performed analyses at the national and state level.
- We could not incorporate key regional factors like rurality, wage index, and cost of living.
- Although Medicare charges are the starting point of price negotiations, we could not directly measure the magnitude of financial impact of our findings on uninsured and underinsured patients.
- Varying negotiation policies across different payers may obscure our findings.

Conclusion

- Charges for hand surgery procedures steadily increased.**
- Increasing charges may reflect an attempt to make up for **reimbursements perceived to be inadequate.**
- This trend places uninsured and underinsured patients at greater risk for **financial catastrophe.**
- Procedural settings shifting from inpatient to ASC** may further limit access to affordable hand care.
- More research on factors for increasing charges for hand surgery care is warranted.

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