

Association of Children's Hospital Status on Value for Common Surgical Conditions

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BACKGROUND

- Children's hospitals (CH) <5% of hospitals in United States
 - 40% of pediatric inpatient hospital days
 - 50% of costs of pediatric care
- In 2009, 40 CH accounted for >\$10 billion of United States healthcare expenditure
 - The top 10 CH profited >\$800 million

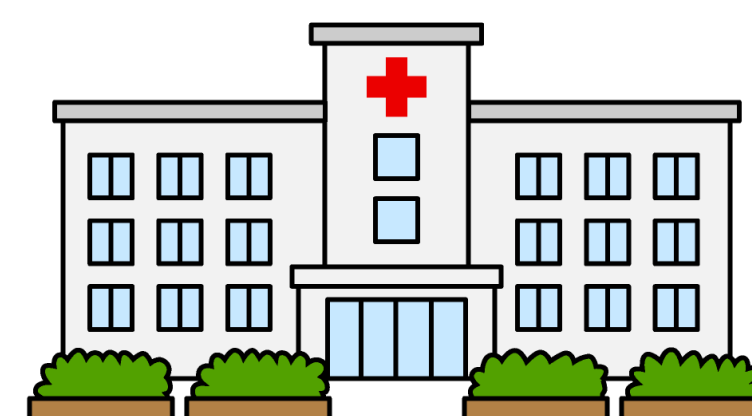
$$\text{VALUE} = \frac{\text{QUALITY}}{\text{COST}}$$

RESEARCH OBJECTIVES

To determine the value of children's hospitals for routine surgical procedures by assessing clinical outcomes and payment data

METHODS

- Health Care Cost Institute administrative database
- 2010-2015
- ≤18 years old
- Exposure: tier of CH



CH-A:
Freestanding Children's Hospital

CH-B:
Children's Hospital Attached to Adult Hospital

NCH:
Non-Children's Hospital

- Underwent 1 of 13 commonly performed surgeries across 5 surgical subspecialties

GENERAL SURGERY	OPHTHALMOLOGY	ORTHOPEDIC SURGERY	OTOLARYNGOLOGY	UROLOGY
<ul style="list-style-type: none"> Appendectomy Anti-Reflux Cholecystectomy Inguinal Hernia Repair Umbilical Hernia Repair 	<ul style="list-style-type: none"> Strabismus Surgery 	<ul style="list-style-type: none"> Anterior Cruciate Ligament (ACL) Reconstruction Humerus Fracture Repair Posterior Spinal Fusion 	<ul style="list-style-type: none"> Tonsillectomy and Adenoidectomy Tympanostomy Tube Placement 	<ul style="list-style-type: none"> Circumcision Orchiopexy

- Chi-square for differences in complication rates between CH and NCH
- T-test and non-parametric Kruskal-Wallis test for differences in payments
- Regression for differences in payments controlled for:
 - complex chronic conditions, patient characteristics, hospital characteristics, procedure type

For commonly performed surgical procedures in children, clinical outcomes are equivalent at CH and NCH but these surgical procedures are associated with higher payments, therefore lower overall value care

With increasing focus on value-based care, further research is needed to evaluate mechanisms to decrease costs and improve value at both CH and NCH

RESULTS

- 368,220 underwent one of the procedures of interest
 - 32.3% at CH-A
 - 20.4% at CH-B
 - 47.3% at NCH
- Most common procedure: tonsillectomy and adenoidectomy with 104,163 cases performed. 54.9% performed at NCH
- Least common procedure: cholecystectomy with 426 procedures performed. 61.7% at NCH

Payments

Figure: Mean payments for common surgical procedures at children's hospitals and non-children's hospitals

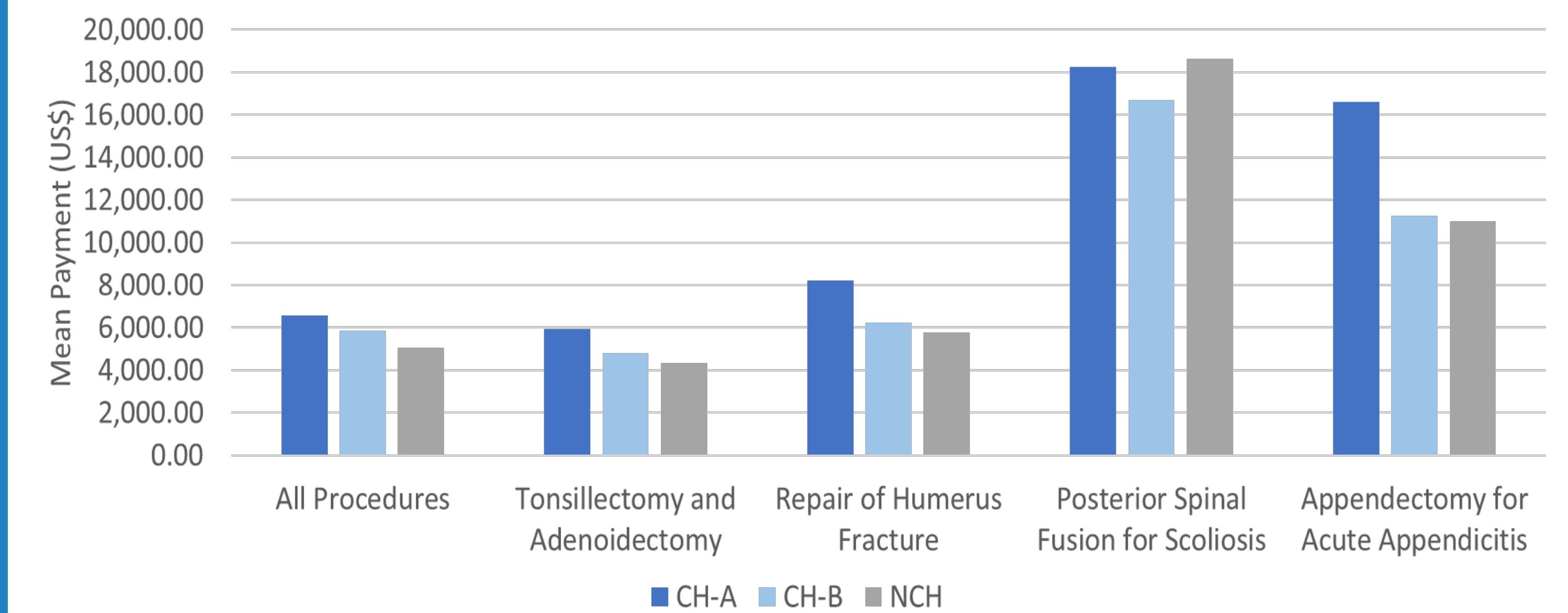


Table: Regression adjusting for complex chronic conditions, zip code, year, month, surgery, surgery setting, and patient, hospital, county characteristics. *signifies significance with p<0.01

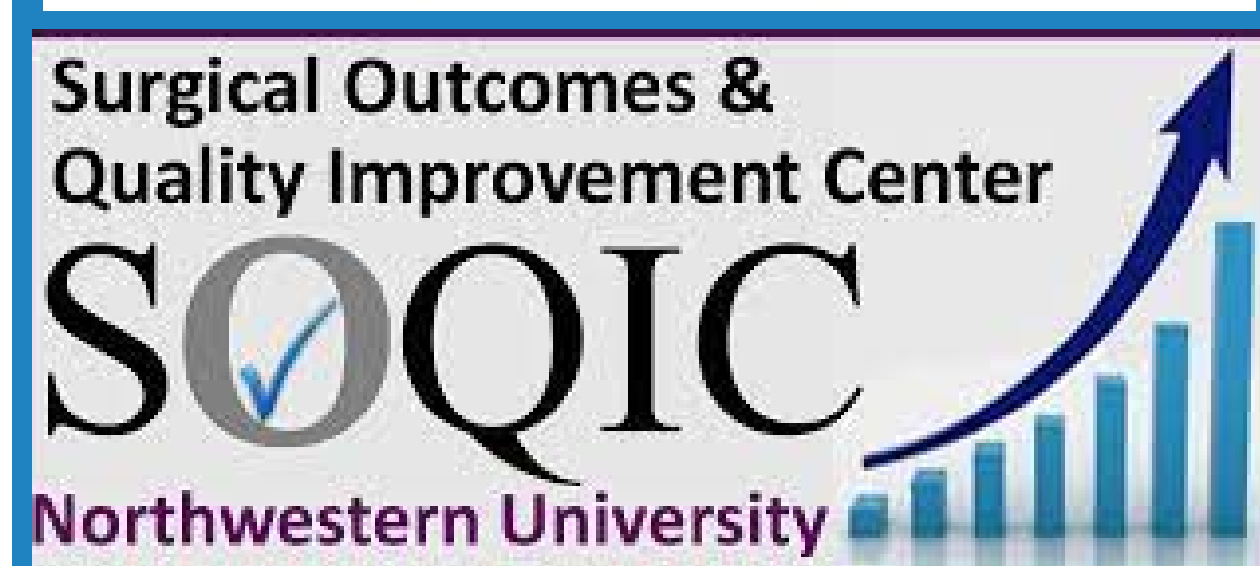
	Regression Coefficients for Hospital Payments				NCH
	CH-A		CH-B		
	Inpatient	Outpatient	Inpatient	Outpatient	
All Procedures	0.39*	0.34*	-0.02	0.03	Ref
Tonsillectomy	0.30	0.46*	-0.04	0.02	
Humerus Fracture	0.15	0.27	-0.06	0.20	
Appendectomy	0.43*	0.33	-0.03	0.11	

Clinical Outcomes

- There was no difference in complications or readmissions at 30, 60, or 90 days at any of the hospital types

LIMITATIONS

- Only includes private insurers
- Did not evaluate referral practices or patient/family preferences
- Data is from 2010-2015
- Does not account for cost shifting
- Complications were obtained from administrative data



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