PEDiATRIC TRAUMA CENTER ACTIVATION CHARGE PRICING TRANSPARENCY: A NATIONAL EVALUATION OF TRAUMA ACTIVATION COST BY GEOGRAPHICAL REGION AND MORTALITY

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Pricing Transparency

As Hospitals Post Price Lists, Consumers Are Asked To Check Up On Them

By Steven Findlay • MARCH 8, 2019 • KHN ORIGINAL

Most hospitals appear to be complying with the federal rule to post their prices online. Yet there is little follow-up by the government or industry and debate continues about whether the price lists are creating more confusion than clarity among consumers.

Hospitals Take Aim at Healthcare Price Transparency Proposal

AHA, FAH, and other hospital representatives are saying the proposed healthcare price transparency requirement is beyond CMS’ authority and fails to address consumer needs.

$3. 492 Trillion

17.9% GDP

Transparent Hospital Pricing Exposes Wild Fluctuation, Even Within Miles

By Harriet Blair Rowan • FEBRUARY 4, 2019 • KHN ORIGINAL

A new federal rule requires hospitals to post their prices online. These lists reveal the wildly different charges for basic procedures and services, but consumers will have a hard time putting this information to use.
AMERICAN COLLEGE OF SURGEONS (ACS) VERIFIED PEDIATRIC LEVEL I & II TRAUMA CENTERS
Regional variations in cost of trauma care in the United States: who is paying more?
Obirieze, Augustine C ; Gaskin, Darrell J ; Villegas, Cassandra V ; Bowman, Stephen M ; Schneider, Eric B ; Oyetunji, Tolulope A ; Haut, Elliott R ; Efron, David T ; Cornwell, Edward E ; Haider, Adil H
The journal of trauma and acute care surgery, August 2012, Vol.73(2), pp.516-22

Survey of National Usage of Trauma Response Charge Codes: An Opportunity for Enhanced Trauma Center Revenue

Samir M. Fakhry, MD, Connie Potter, RN, MBA, Wallace Crain, BSP, and Ronald Maier, MD

Background: The objective of this study was to survey Trauma Center (TC) members of the National Foundation for Trauma Care/Trauma Center Association of America to determine usage and consistency of
METHODS

Collected pediatric trauma center chargemaster files

Database created with trauma center charges

Evaluated, validated, and statistically analyzed trauma activation pricing
RESULTS

Level I and Level II Pediatric Trauma Center Activation Charges for "Full" Trauma Team Activation

$82,941.00
## RESULTS

### Table 1. ACS Verified Pediatric Trauma Centers Activation Pricing Statistics by Geographical Region and Activation Tier Level

<table>
<thead>
<tr>
<th>All Centers</th>
<th>Activation Tier</th>
<th>Median</th>
<th>IQR</th>
<th>Mean</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
<th>N</th>
<th>Missing</th>
<th>% Report</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (Full)</td>
<td>9147</td>
<td>6200 - 14076</td>
<td>12380.49</td>
<td>11292.71</td>
<td>1051</td>
<td>82941</td>
<td>110</td>
<td>19</td>
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<td>2</td>
<td>7656</td>
<td>4461 - 12570</td>
<td>9638.26</td>
<td>8176.24</td>
<td>1092</td>
<td>49337</td>
<td>110</td>
<td>33</td>
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<td>70</td>
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<tr>
<td>3</td>
<td>4172</td>
<td>2458.5 - 7040.5</td>
<td>5746.58</td>
<td>4746.08</td>
<td>1305</td>
<td>21789</td>
<td>110</td>
<td>66</td>
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<td>40</td>
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<tr>
<td>4</td>
<td>1861</td>
<td>1136 - 2586</td>
<td>1861</td>
<td>1025.3</td>
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<td>2586</td>
<td>110</td>
<td>108</td>
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<td>1.8</td>
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</table>
## RESULTS

<table>
<thead>
<tr>
<th>Level / Details</th>
<th>Activation Tier</th>
<th>Median</th>
<th>IQR</th>
<th>Mean</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
<th>N</th>
<th>Missing</th>
<th>% Report</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>All Level 1 Pediatric Trauma Centers</strong></td>
<td>1 (Full)</td>
<td>9931</td>
<td>6724 - 16268</td>
<td>13316.95</td>
<td>12997.12</td>
<td>2211</td>
<td>82941</td>
<td>56</td>
<td>11</td>
<td>80.4</td>
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<td>2</td>
<td>8324.01</td>
<td>4461 - 13001</td>
<td>9980.85</td>
<td>8475.87</td>
<td>1178</td>
<td>49337</td>
<td>56</td>
<td>18</td>
<td>67.9</td>
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<td></td>
<td>3</td>
<td>4461</td>
<td>3092.37 - 9017</td>
<td>6847.01</td>
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<td>1305</td>
<td>21789</td>
<td>56</td>
<td>21</td>
<td>37.5</td>
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<tr>
<td><strong>All Level 2 Pediatric Trauma Centers</strong></td>
<td>1 (Full)</td>
<td>8680.95</td>
<td>6196 - 13296</td>
<td>11464.38</td>
<td>9388.55</td>
<td>1051</td>
<td>46151</td>
<td>54</td>
<td>8</td>
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<td></td>
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<td>6146</td>
<td>4433.5 - 11253</td>
<td>9304</td>
<td>7969.94</td>
<td>1092</td>
<td>40408</td>
<td>54</td>
<td>15</td>
<td>72.2</td>
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<tr>
<td></td>
<td>3</td>
<td>3000</td>
<td>2397 - 5898</td>
<td>4741.84</td>
<td>3802.88</td>
<td>1438</td>
<td>18098</td>
<td>54</td>
<td>27</td>
<td>42.6</td>
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## RESULTS

All ACS Pediatric Level I vs Level II Trauma Center Full Activation Tier 1

<table>
<thead>
<tr>
<th></th>
<th>Level I</th>
<th>Level II</th>
<th>Total</th>
<th>P value</th>
<th>Test</th>
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<tbody>
<tr>
<td></td>
<td>N (56)</td>
<td>n = (54)</td>
<td>n = (110)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>median (IQR)</td>
<td>median (IQR)</td>
<td>median (IQR)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tier 1</td>
<td>9931 (6724 - 16268)</td>
<td>8680.95 (6196 - 13296)</td>
<td>9147 (6200 - 14076)</td>
<td>0.383*</td>
<td>Mann Whitney</td>
</tr>
</tbody>
</table>

*There is no statistical difference between Level I and Level II median (IQR) full activation charges.
### RESULTS

**Figure 1: ACS Pediatric Trauma Center Full Activation Tier 1 Response Charges by Region with comparison of Injury Severity Score (ISS) and Case Fatality**

Kruskal-Wallis Test used for P value when comparing pricing with other regions

α levels set to 0.05 to assess statistical significance

*Data received from the National Trauma Data Bank 2016 Pediatric Annual Report

<table>
<thead>
<tr>
<th>Geographical Region</th>
<th>Tier 1 Full Trauma Activation Pricing Median (IQR)</th>
<th>Pricing Geographical Region (P value)</th>
<th>ISS&gt;15 Cases N (%)*</th>
<th>Case Fatality N (%)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>West (N=23)</td>
<td>$19,000.00 ($13,101.80-$23,892.50)</td>
<td>Midwest (P&lt;0.001)</td>
<td>4957 (4%)</td>
<td>424 (1.71%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>South (P&lt;0.001)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Northeast (P&lt;0.001)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Midwest (N=36)</td>
<td>$8,606.00 ($5,807.00-$10,656.50)</td>
<td>West (P&lt;0.001)</td>
<td>4929 (3%)</td>
<td>566 (1.61%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>South (P&lt;0.811)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Northeast (P&lt;0.043)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>South (N=27)</td>
<td>$8,924.95 ($5,815.50-$12,003.00)</td>
<td>West (P&lt;0.001)</td>
<td>9832 (7%)</td>
<td>2129 (3.64%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Midwest (P&lt;0.011)</td>
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<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Northeast (P&lt;0.068)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northeast (N=24)</td>
<td>$5,528.00 ($3,307.00-$8,209.00)</td>
<td>West (P&lt;0.001)</td>
<td>3242 (2%)</td>
<td>323 (1.46%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Midwest (P&lt;0.043)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>South (P&lt;0.068)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# RESULTS

Table 5: Likert Scale Pediatric Trauma Centers Ranking by Region

<table>
<thead>
<tr>
<th>Likert Category</th>
<th>Midwest</th>
<th>Northeast</th>
<th>South</th>
<th>West</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case Fatality</td>
<td>3</td>
<td>4</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Median Tier 1 “Full” Trauma</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Activation Price</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>ISS &gt;15 Cases</td>
<td>3</td>
<td>4</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Likert Ranking</td>
<td>3</td>
<td>4</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>
LIMITATIONS

• Study only focuses on ACS verified pediatric trauma centers

• Pricing information is based of hospital chargemaster interpretation

• 100 of 110 pediatric centers had published chargemaster files not all included trauma pricing

• Outcome data is based of ISS and case fatality data from the National Trauma Data Bank 2016 data file
COST TO QUALITY CONNECTION

High Quality

High Cost

Low Cost

Low Quality
REFERENCES

Medicare Program; Hospital Inpatient Prospective Payment Systems for Acute Care Hospitals and the Long-Term Care Hospital Prospective Payment System and Policy Changes and Fiscal Year 2019 Rates; Quality Reporting Requirements for Specific Providers; Medicare and Medicaid Electronic Health Record (EHR) Incentive Programs (Promoting Interoperability Programs) Requirements for Eligible Hospitals, Critical Access Hospitals, and Eligible Professionals; Medicare Cost Reporting Requirements; and Physician Certification and Recertification of Claims. (2018, August 17). (to be codified at 42 C. F. R. pts. 412, 413, 424, and 495).


Texas Children’s Hospital is affiliated with Baylor College of Medicine in the areas of pediatrics, pediatric surgery, and obstetrics and gynecology. Currently and throughout the 60-year partnership, Texas Children’s serves as Baylor’s primary pediatric training site, and more than 1,500 Baylor faculty are the division chiefs and staff physicians of Texas Children’s patient care centers.