Cost of Simple Pneumonia and whooping cough (IR DRG 04416) by severity level and the weight of medication.

Sanatorio Americano – Sistema FEMI – URUGUAY

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URUGUAY

- Between Argentina and Brazil
- Population: 3,300,000 inhab.
- GDP per capita = US$ 9,000
- Health care expenditure = 9% GDP
THERE IS A PLACE FOR YOU IN URUGUAY
AGENDA

- INTRODUCTION
- OBJECTIVES and METHODOLOGY.
- RESULTS.
- CONCLUSIONS.
INTRODUCTION
NATIONAL HEALTH CARE NETWORK

- 720,000 Affiliates
- 23 Companies
- 2,800 Doctors
- 35 Hospitals
- 100,000 Discharges per year
- U$S 400,000,000 Annual Income.
SANATORIO AMERICANO

- Private Non for profit hospital
- 150 beds
- 8,000 Discharges per year
- 600 Cardiac Surgery per year
- 800 Hip and Knee replacement
OBJECTIVES and METHODOLOGY
OBJECTIVES

1. Analyse the cost of IR-DRG 04416 by severity adjusted level and the proportion of accommodation and medication.

2. Compare the proportion of antibiotic medication within three levels.
HEALTH CARE DELIVERY

COSTING PROCESS

DRG

DRG + Cost
For each patient

Cost

account
Costing Process

IR DRG

+ Cost per patient

DRG with its cost
For each patient
Methodology

- Descriptive study of:
  - Patients discharged from Sanatorio Americano
  - With IR- DRG 04416 (1- 3).

- Variables studied:
  - Average length of stay
  - Total cost of the treatment
  - Cost of antibiotic medication

- Statistical Analysis:
  - Means and Medians to resume quantitative variables
  - Kruskall Wallis test to compare cost between groups
RESULT-1 – Population description

N = 90. Female = 61%

Level 1 = 43
Level 2 = 25
Level 3 = 22
## RESULTS-2 – Comorbidities and complications

<table>
<thead>
<tr>
<th></th>
<th>044161</th>
<th>044162</th>
<th>044163</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Comorbidities</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypertension</td>
<td>16%</td>
<td>28%</td>
<td>9%</td>
</tr>
<tr>
<td>Diabetes</td>
<td>7%</td>
<td>12%</td>
<td>9%</td>
</tr>
<tr>
<td>Smoking</td>
<td>7%</td>
<td>20%</td>
<td>27%</td>
</tr>
<tr>
<td>COPD</td>
<td>0%</td>
<td>20%</td>
<td>9%</td>
</tr>
<tr>
<td><strong>Complications</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pleural Effusion</td>
<td>0%</td>
<td>0%</td>
<td>40%</td>
</tr>
<tr>
<td>Respiratory Insufficiency</td>
<td>0%</td>
<td>0%</td>
<td>59%</td>
</tr>
<tr>
<td>Empyema</td>
<td>0%</td>
<td>0%</td>
<td>9%</td>
</tr>
<tr>
<td>Renal Insufficiency</td>
<td>0%</td>
<td>0%</td>
<td>5%</td>
</tr>
</tbody>
</table>
RESULTS-3 – Mean Cost

- 044161: u$s 615
- 044162: u$s 1.044
- 044163: u$s 2.403
## RESULTS – 3
Mean cost, Average length of stay and Cost weight

<table>
<thead>
<tr>
<th>IR- DRG</th>
<th>MEAN COST (U$S)</th>
<th>AVERAGE LOS (days)</th>
<th>C WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>044161</td>
<td>615</td>
<td>3.8</td>
<td>0.4357</td>
</tr>
<tr>
<td>044162</td>
<td>1.044</td>
<td>5.4</td>
<td>0.7511</td>
</tr>
<tr>
<td>044163</td>
<td>2.403</td>
<td>7.7</td>
<td>1.2314</td>
</tr>
</tbody>
</table>
RESULTS – 4
Proportion of accommodation and medicine

- OTHER ITEMS 29%
- OTHER ITEMS 31%
- OTHER ITEMS 37%
- OTHER ITEMS 13%
- OTHER ITEMS 50%

044161 044162 044163
RESULTS – 5 Means cost of antibiotic and others medicine

- 44163: 33% ATB, 67% No ATB
- 44162: 64% ATB, 36% No ATB
- 44161: 59% ATB, 41% No ATB
CONCLUSIONS
CONCLUSIONS

✓ Higher severity level, implies greater ALOS and cost.

✓ Severity level is more determined by complications than comorbidities.

✓ Accommodation represents more than 50% in each category.

✓ Medication accounts for around 10% of the total cost.

✓ For 4416-3
  ➢ Higher cost is explained mainly by increased medication cost.
  ➢ The proportion of non-antibiotics to antibiotics is higher than in other levels.
THANK YOU!