Projected Impact of a System-Wide Preoperative Nutrition Strategy for Foregut and Pancreatic Cancer Patients

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INTRODUCTION

• Preoperative nutrition has been shown to improve surgical outcomes.
• However, the implications of introducing a system-wide nutritional bundle remain unexplored.
• We project the value implications of providing routine preoperative nutrition to a cohort of cancer surgery patients within an integrated cancer network.

METHODS

• We used administrative claims data to determine the total healthcare utilization (HCU).
• Projections were adjusted to account for the anticipated number of surgeries performed within our cancer network in a year: 50 gastric, 75 esophageal, and 100 pancreatic.
• We conducted a comprehensive literature review to estimate the potential reduction in complications and length of stay (LOS) associated with the use of preoperative nutrition for these procedures.
• After considering the estimated costs of delivering nutrition to each patient, we project the comprehensive financial implications of the program.

RESULTS

• The total projected HCU for these 225 procedures is $4,374,476.
• We projected an average LOS reduction of 18% resulting in:
  • 220 in-patient hospital days reduced
  • 11 outlier days reduced – resulting in cost savings of $43,050 for the payer
• Projected reduction in complications would result in HCU savings of $74,660.
• Cost of direct delivery of the nutritional bundle to each patient (225 claims x $60 per bundle) is $13,500.
• The total projected annual savings for the payer/insurance sector is $104,210.

CONCLUSIONS

• Providing standardized delivery of preoperative nutrition to patients undergoing oncologic surgery offers improved outcomes and cost savings to both payers and providers within an integrated cancer network.

POPULATION STUDIED

• Patients who underwent esophagectomy, gastrectomy, or pancreatectomy under a single insurance plan within a regional health system between July 1, 2020, and June 30, 2021.

<table>
<thead>
<tr>
<th>Disease Site</th>
<th>Total Claims</th>
<th>Total Cost ($)</th>
<th>Total Cost Per Day ($)</th>
<th>Assumed LOS Reduction</th>
<th>Hospital Days Reduced</th>
<th>Outlier Days Reduced</th>
<th>Outlier Cost Savings ($)</th>
<th>Complication Reduction Impact ($)</th>
<th>Total Payer Cost Savings ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stomach</td>
<td>50</td>
<td>863,084</td>
<td>4,508</td>
<td>30%</td>
<td>14</td>
<td>2</td>
<td>10,648</td>
<td>522</td>
<td>11,370</td>
</tr>
<tr>
<td>Esophagus</td>
<td>75</td>
<td>1,653,218</td>
<td>5,102</td>
<td>13%</td>
<td>15</td>
<td>1</td>
<td>3,213</td>
<td>71,782</td>
<td>74,995</td>
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<tr>
<td>Pancreas</td>
<td>100</td>
<td>1,858,174</td>
<td>1,992</td>
<td>16%</td>
<td>167</td>
<td>8</td>
<td>28,989</td>
<td>2,356</td>
<td>31,345</td>
</tr>
<tr>
<td>TOTAL</td>
<td>225</td>
<td>4,374,476</td>
<td>3,887</td>
<td>18%</td>
<td>220</td>
<td>11</td>
<td>43,050</td>
<td>117,710</td>
<td>117,710</td>
</tr>
</tbody>
</table>

CONTACT INFORMATION

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