Service Line Planning Concepts for Critical Access Hospitals

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August, 2015
Objective of the Discussion: To gain a high-level understanding of service line planning for critical access hospitals (CAHs)

Discussion Agenda:
• Definition of “service line planning”
• Objectives and benefits of service line planning in CAHs
• Using internal and external data to understand your financial and market position
• Sample of CAH service line modeling
Service line planning is a method of managing patient care around a specific disease tract such as cancer or heart disease.

Patients with a specific disease or condition typically require a common set of services and may have common needs and challenges. Organizing care around these common needs enables health systems to focus on relevant services and optimize service processes and patient outcomes.
In order to effectively create a service line system of management within your health system, the following structure is required:

• Defining the key service lines within your organization
• Defining the service line leader and team
• Understanding the cost to deliver defined services
• Understanding the reimbursement structure for such services (and payor mix)
• Identifying variation in care processes and creating best practice care “standards”
• Developing a reporting tool to monitor service line performance
Objectives and Benefits of Service Line Planning in CAHs

- CAHs are typically considered small health systems that need to manage resources effectively to best meet the health needs of their primary service areas. Many include hospitals, physician clinics, home care departments and other ancillary services that should be managed along lines of care based on disease state or medical need.
Once information is organized and reported along key service lines, CAHs can work to improve the quality and profitability of key services by focusing on:

- Evaluating payor performance and working with revenue cycle to maximize payments
- Understanding the true costs of caring for patients
- Identifying variation in care patterns across patients or physicians
- Maintaining strong lines of communication with the various players, particularly physicians
- Predicting, tracking and responding to changes in mix or volumes
- Plan services and resources
Using Internal and External Data to Understand Your Financial and Market Position

**Step 1:** Defining the key service lines within your organization

- Service lines organized around a common disease state or condition will require a mapping of services provided (claims) into each category
- While many health systems create their own service line definitions based on how they wish to track information, we often see services mapped into service lines as follows:
  - Inpatient services:
    - Major diagnostic category
    - DRG
    - Primary diagnosis
  - Outpatient, ambulatory clinic and ancillary services:
    - Primary diagnosis
    - CPT codes
Step 1: Defining the key service lines within your organization

- Based on definitions and a mapping of claims, we often see health systems create the following service lines for reporting purposes:
  - Cancer
  - ENT
  - Cardiovascular
  - Gastrointestinal
  - General medicine (including general surgery)
  - Neurology
  - Orthopedics
  - Pulmonology
  - Urology
  - Spine
  - Women’s health
Step 1: Defining the key service lines within your organization

- While all health system services should ideally be mapped into a service line, not all service lines will require the same level of leadership and management within the organization.
- We recommend the top three to four service lines create the focus for a true service line model of leadership and management and relate cross functionally to other service departments within your organization, which may include:
  - Lab
  - Imaging
  - Therapies
  - Other diagnostic services
  - Routine services
  - Surgical services (including anesthesia and recovery)
Service Line Planning for CAHs

**Step 2: Understanding service line performance**

- Once service lines are identified, it is essential to understand the current-state profitability of the service line for performance monitoring and improvement.
- To understand current state profitability, we recommend the following analytical process:
  - Obtain at least one year of health system claims for service line mapping and modeling.
  - The claims information (supplemented with patient accounts data) will include a wealth of information to help you understand:
    - Patient demographics
    - Services provided (such as CPT codes) and related charges
    - Diagnosis codes
    - Treating and admitting physician
    - Discharge disposition
    - Payor
    - Reimbursement (form patient accounts)
Step 2: Understanding Service Line Performance

- Fixed and variable cost information by line item service included on each claim form will need to be assigned to the claim. Common cost information sources include:
  - Cost accounting systems in place
  - Ratio of cost to charges from the most recently filed Medicare cost report
  - Relative value unit assignments
  - Other methods

- Pulling it all together—the resource usage measured as charges, cost (fixed and variable), and reimbursement allowed on each claim will allow you to understand the relative significance of each service line, as well as the interrelationships between the service lines and support services (such as lab, imaging, etc.)
From this initial quantitative service line analysis, you can begin to understand cost of care, variation in care between providers and begin to develop improvement goals for the service line.

The service line financial model should be linked to other qualitative and quantitative information to create a comprehensive “story board” for top service lines within the organization such as:

- **Physician Information**: Supporting the service line (age/specialty), as well as physician demand in the market

- **Quality Metrics**: How does your system’s quality compare to other benchmark standards? What opportunities are there to improve quality, value and patient satisfaction?
Service Line Planning for CAHs

- **Market Metrics**: What percentage of the market share does your organization have for top service lines? What is your opportunity to expand the service line? Sources to measure market share by service line include state hospital associations, Medicare claims data or others.

- **Financial**: How does service line profitability align with other key service lines within your organization? What is the market potential to expand services? Does your organization have sufficient capacity and resources to do so?
Financial Analytics by Service Line Data

Source: Hospital-Provided Claims Data
Sample CAHs overall hospital financial performance reflects a margin of 14% on reimbursement. Overall, reimbursement as a percent of billed charges is 68%, which is supported by favorable reimbursement rates from commercial insurers. We typically see the relationship between charges and overall reimbursement trending at lower percentages.

### Sample Hospital

**Financial Contribution by Service Line - All Patients**

<table>
<thead>
<tr>
<th>Service Line</th>
<th>Charges</th>
<th>Reimbursement</th>
<th>Direct Cost</th>
<th>Direct Margin</th>
<th>Contribution Margin</th>
<th>Total Cost</th>
<th>Total Margin</th>
<th>% of Total Margin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gastroenterology</td>
<td>$8,250,743</td>
<td>$5,594,844</td>
<td>$2,241,121</td>
<td>$3,353,723</td>
<td>60%</td>
<td>$4,296,146</td>
<td>$1,299,698</td>
<td>23%</td>
</tr>
<tr>
<td>Orthopedics</td>
<td>7,226,285</td>
<td>4,851,998</td>
<td>1,997,812</td>
<td>2,854,186</td>
<td>59%</td>
<td>3,771,413</td>
<td>1,080,585</td>
<td>22%</td>
</tr>
<tr>
<td>General Medicine</td>
<td>7,051,506</td>
<td>5,371,434</td>
<td>2,407,525</td>
<td>2,963,909</td>
<td>55%</td>
<td>4,767,418</td>
<td>604,016</td>
<td>11%</td>
</tr>
<tr>
<td>Pulmonology</td>
<td>5,085,958</td>
<td>3,622,863</td>
<td>1,700,463</td>
<td>1,822,400</td>
<td>52%</td>
<td>3,422,036</td>
<td>100,827</td>
<td>3%</td>
</tr>
<tr>
<td>Women's Health</td>
<td>4,042,672</td>
<td>2,735,654</td>
<td>1,254,722</td>
<td>1,480,932</td>
<td>54%</td>
<td>2,662,692</td>
<td>72,962</td>
<td>3%</td>
</tr>
<tr>
<td>Cardiovascular</td>
<td>4,003,400</td>
<td>2,629,304</td>
<td>1,194,463</td>
<td>1,434,841</td>
<td>55%</td>
<td>2,325,009</td>
<td>304,295</td>
<td>12%</td>
</tr>
<tr>
<td>Neurology</td>
<td>2,513,634</td>
<td>1,638,602</td>
<td>687,071</td>
<td>951,531</td>
<td>58%</td>
<td>1,273,913</td>
<td>364,689</td>
<td>22%</td>
</tr>
<tr>
<td>Urology</td>
<td>2,395,253</td>
<td>1,467,326</td>
<td>664,855</td>
<td>802,471</td>
<td>55%</td>
<td>1,289,624</td>
<td>177,702</td>
<td>12%</td>
</tr>
<tr>
<td>Spine</td>
<td>2,311,696</td>
<td>1,661,373</td>
<td>693,736</td>
<td>967,637</td>
<td>58%</td>
<td>1,437,119</td>
<td>224,254</td>
<td>13%</td>
</tr>
<tr>
<td>Cancer</td>
<td>1,481,833</td>
<td>911,854</td>
<td>372,307</td>
<td>539,547</td>
<td>59%</td>
<td>717,129</td>
<td>194,725</td>
<td>21%</td>
</tr>
<tr>
<td>ENT</td>
<td>1,077,118</td>
<td>715,351</td>
<td>376,712</td>
<td>338,639</td>
<td>47%</td>
<td>674,386</td>
<td>40,965</td>
<td>6%</td>
</tr>
<tr>
<td>Ophthalmology</td>
<td>1,056,097</td>
<td>610,993</td>
<td>295,039</td>
<td>315,354</td>
<td>52%</td>
<td>548,832</td>
<td>61,561</td>
<td>10%</td>
</tr>
<tr>
<td>Infectious Disease</td>
<td>988,183</td>
<td>703,325</td>
<td>294,633</td>
<td>408,682</td>
<td>58%</td>
<td>570,454</td>
<td>132,871</td>
<td>19%</td>
</tr>
<tr>
<td>Behavioral Health</td>
<td>841,176</td>
<td>546,785</td>
<td>266,119</td>
<td>280,666</td>
<td>51%</td>
<td>512,030</td>
<td>34,755</td>
<td>6%</td>
</tr>
<tr>
<td>Newborn</td>
<td>704,498</td>
<td>435,679</td>
<td>143,220</td>
<td>292,459</td>
<td>67%</td>
<td>338,566</td>
<td>97,113</td>
<td>22%</td>
</tr>
<tr>
<td>Hematology</td>
<td>413,037</td>
<td>278,756</td>
<td>121,925</td>
<td>156,831</td>
<td>56%</td>
<td>251,089</td>
<td>27,667</td>
<td>10%</td>
</tr>
<tr>
<td>Endocrinology</td>
<td>393,620</td>
<td>259,272</td>
<td>114,902</td>
<td>144,370</td>
<td>56%</td>
<td>214,837</td>
<td>44,435</td>
<td>17%</td>
</tr>
<tr>
<td>Dermatology</td>
<td>166,652</td>
<td>121,524</td>
<td>61,016</td>
<td>60,508</td>
<td>50%</td>
<td>113,466</td>
<td>8,058</td>
<td>7%</td>
</tr>
<tr>
<td>Neonatology</td>
<td>14,649</td>
<td>8,961</td>
<td>4,814</td>
<td>3,747</td>
<td>44%</td>
<td>9,094</td>
<td>(533)</td>
<td>-6%</td>
</tr>
<tr>
<td>Unknown</td>
<td>210</td>
<td>210</td>
<td>114</td>
<td>96</td>
<td>46%</td>
<td>210</td>
<td>(70)</td>
<td>-33%</td>
</tr>
</tbody>
</table>

**Totals**

- **Charges**: $50,018,220
- **Reimbursement**: $34,065,108
- **Direct Cost**: $14,892,569
- **Total Cost**: $29,194,533
- **% of Total**: 14%
Inpatient services reflect 39% of hospital billed charges. From a financial perspective, Sample CAH is reporting a break even position. Orthopedic services provided the only significant inpatient positive margin for the CAH.
Outpatient services provided the positive margin for Sample CAH with gastroenterology services most positive in terms of total margin and total margin measured as a percent of reimbursement.
Sample CAH Service Line Modeling

Patient Days by Service Line

Inpatient days are concentrated in the service lines as shaded above—focused on the obstetrical service line and services that are heavily weighted toward Medicare eligible patients such as pulmonology services. This internal data can also be benchmarked against market data to understand relative market share of each service within the Sample CAH’s defined market area.
Medicare identified a number of issues that are potentially deemed “ambulatory sensitive” as shaded above, which suggests potential treatment in an outpatient or less intensive setting than an inpatient stay. As these reform initiatives evolve, inpatient stays for these types of conditions may decrease.

Sample Hospital
Pulmonary Medicine Days and Discharges by DRG (excludes Swing Bed and Hospice)

<table>
<thead>
<tr>
<th>DRG</th>
<th>Inpatient Days</th>
<th>Discharges</th>
</tr>
</thead>
<tbody>
<tr>
<td>153</td>
<td>OTITIS MEDIA &amp; URI WO MCC</td>
<td>2</td>
</tr>
<tr>
<td>178</td>
<td>RESPIRATORY INFECTIONS &amp; INFLAMMATIONS WO MCC</td>
<td>8</td>
</tr>
<tr>
<td>189</td>
<td>PULMONARY EDEMA &amp; RESPIRATORY FAILURE</td>
<td>2</td>
</tr>
<tr>
<td>190</td>
<td>CHRONIC OBSTRUCTIVE PULMONARY DISEASE WO MCC</td>
<td>62</td>
</tr>
<tr>
<td>191</td>
<td>CHRONIC OBSTRUCTIVE PULMONARY DISEASE W CC/MCC</td>
<td>54</td>
</tr>
<tr>
<td>192</td>
<td>CHRONIC OBSTRUCTIVE PULMONARY DISEASE WO CC/MCC</td>
<td>70</td>
</tr>
<tr>
<td>193</td>
<td>SIMPLE PNEUMONIA &amp; PLEURSY WO MCC</td>
<td>8</td>
</tr>
<tr>
<td>194</td>
<td>SIMPLE PNEUMONIA &amp; PLEURSY W CC/MCC</td>
<td>124</td>
</tr>
<tr>
<td>195</td>
<td>SIMPLE PNEUMONIA &amp; PLEURSY WO CC/MCC</td>
<td>94</td>
</tr>
<tr>
<td>197</td>
<td>INTERSTITIAL LUNG DISEASE WO MCC</td>
<td>8</td>
</tr>
<tr>
<td>202</td>
<td>BRONCHITIS &amp; ASTHMA WO MCC</td>
<td>2</td>
</tr>
<tr>
<td>203</td>
<td>BRONCHITIS &amp; ASTHMA WO CC/MCC</td>
<td>6</td>
</tr>
<tr>
<td>204</td>
<td>RESPIRATORY SIGNS &amp; SYMPTOMS</td>
<td>8</td>
</tr>
<tr>
<td>206</td>
<td>OTHER RESPIRATORY SYSTEM DIAGNOSES WO MCC</td>
<td>14</td>
</tr>
<tr>
<td>208</td>
<td>RESPIRATORY SYSTEM DIAGNOSIS W/VENTILATOR SUPPORT &lt;96 HOURS</td>
<td>4</td>
</tr>
<tr>
<td>983</td>
<td>EXTENSIVE O.R. PROCEDURE UNRELATED TO PRINCIPAL DIAGNOSIS WO CC/MCC</td>
<td>6</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>472</strong></td>
<td><strong>176</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ambulatory Sensitive Condition Potential</th>
<th>184</th>
<th>72</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>39%</td>
<td>41%</td>
</tr>
</tbody>
</table>
Patients covered by commercial insurance (28% of total) are providing Sample CAH a significant margin on services. As expected, Medicaid reimbursement, while covering the hospital’s direct costs, does not cover most of the allocated overhead costs associated with services. Medicare sequestration reduced cost-based reimbursement by 2% in fiscal 2014.
In Summary

• Service line planning is a formal process of identifying, organizing, reporting and evaluating key services within your organization for more effective monitoring of performance and more effective planning for the future.

• It enables you to:
  ◦ Understand the profitability associated with the service, as well as key drivers to the success of each key service line
  ◦ Predict, track and respond to changes in case mix or volumes
  ◦ Plan to expand services and resources in a more focused way
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