Service Line Planning Concepts for Critical Access Hospitals

Jane F. Jerzak, RN, CPA

Partner, WIPFLI

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Service Line Planning Concepts for Critical Access Hospitals

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

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Definition of Service Line Planning

- 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

Definition of Service Line Planning

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

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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

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Objectives and Benefits of Service Line Planning in CAHs

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

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Service Line Planning for CAHs

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

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Service Line Planning for CAHs

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

Service Line Planning for CAHs

Step 1: <u>Defining the key service lines within your organization</u>

- 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: <u>Understanding service line performance</u>

- 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)

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Service Line Planning for CAHs

Step 2: <u>Understanding Service Line Performance</u>

- 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.)

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Service Line Planning for CAHs

- 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?

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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

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Sample CAH Service Line Modeling
Total CAH Services at a Glance

			Direct	Contribution	%Contribution	Total	Total	%of
Sample Hospital								
Financial Contribution by Service Line - All Patients								
Service Line	Charges	Reimbursement	Cost	Margin	Margin	Cost	Margin	Total Margin
Gastroenterology	$8,250,743	$5,594,844	$ 2,241,121	$3,353,723	60%	$ 4,295,146	$1,299,698	23%
Orthopedics	7,226,285	4,851,998	1,997,812	2,854,186	59%	3,771,413	1,080,585	22%
General Medicine	7,051,506	5,371,434	2,407,525	2,963,909	55%	4,767,418	604,016	11%
Pulmonology	5,085,958	3,522,863	1,700,463	1,822,400	52%	3,422,036	100,827	3%
Women's Health	4,042,672	2,735,654	1,254,722	1,480,932	54%	2,662,692	72,962	3%
Cardiovascular	4,003,400	2,629,304	1,194,463	1,434,841	55%	2,325,009	304,295	12%
Neurology	2,513,634	1,638,602	687,071	951,531	58%	1,273,913	364,689	22%
Urology	2,395,253	1,467,326	664,855	802,471	55%	1,289,624	177,702	12%
Spine	2,311,696	1,661,373	693,736	967,637	58%	1,437,119	224,254	13%
Cancer	1,481,833	911,854	372,307	539,547	59%	717,129	194,725	21%
ENT	1,077,118	715,351	376,712	338,639	47%	674,386	40,965	6%
Ophthalmology	1,056,097	610,393	295,039	315,354	52%	548,832	61,561	10%
Infectious Disease	988,183	703,325	294,633	408,692	58%	570,454	132,871	19%
Behavioral Health	841,176	546,785	266,119	280,666	51%	512,030	34,755	6%
Newborn	704,498	435,679	143,220	292,459	67%	338,566	97,113	22%
Hematology	413,037	278,756	121,925	156,831	56%	251,089	27,667	10%
Endocrinology	393,620	259,272	114,902	144,370	56%	214,837	44,435	17%
Dermatology	166,652	121,524	61,016	60,508	50%	113,466	8,058	7%
Neonatology	14,649	8,561	4,814	3,747	44%	9,094	(533)	-6%
Unknown	210	210	114	96	46%	280	(70)	-33%
Totals	$ 50,018,220	$ 34,065,108	$ 14,892,569	$ 19,172,539	56%	$ 29,194,533	$ 4,870,575	14%

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.

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Sample CAH Service Line Modeling
Total CAH Inpatient Services at a Glance

Sample Hospital								
Financial Contribution by Service Line - Inpatients								
Service Line	Charges	Reimbursement	Direct Cost	Contribution Margin	% Contribution Margin	Total Cost	Total Margin	% of Total Margin
Orthopedics	$3,470,187	$2,439,220	$ 1,013,622	$1,425,598	58%	$ 2,003,729	$435,491	18%
Pulmonology	2,531,616	1,912,450	943,658	968,792	51%	2,035,534	(123,084)	-6%
Women's Health	2,175,853	1,439,575	771,068	668,507	46%	1,739,545	(299,970)	-21%
Gastroenterology	1,780,559	1,278,287	604,521	673,766	53%	1,303,726	(25,439)	-2%
Cardiovascular	976,096	757,398	349,714	407,684	54%	769,369	(11,971)	-2%
General Medicine	951,317	782,270	354,480	427,790	55%	784,063	(1,793)	0%
Newborn	704,498	435,679	143,220	292,459	67%	338,566	97,113	22%
Urology	539,777	406,509	195,391	211,118	52%	432,327	(25,818)	-6%
Spine	329,044	274,315	115,745	158,570	58%	255,707	18,608	7%
Infectious Disease	260,984	217,126	93,829	123,297	57%	207,415	9,711	4%
Neurology	202,744	169,552	68,865	100,687	59%	152,577	16,975	10%
Hematology	172,127	136,185	62,027	74,158	54%	138,114	(1,929)	-1%
Cancer	156,428	125,440	50,477	74,963	60%	105,518	19,922	16%
ENT	132,249	107,147	51,075	56,072	52%	113,359	(6,212)	-6%
Behavioral Health	83,985	58,705	33,297	25,408	43%	72,258	(13,553)	-23%
Endocrinology	64,322	55,931	21,998	33,933	61%	47,310	8,621	15%
Dermatology	21,269	19,210	8,649	10,561	55%	19,602	(392)	-2%
Totals	$ 14,553,055	$ 10,614,999	$ 4,881,636	$ 5,733,363	54%	$ 10,518,719	$ 96,280	1%

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.

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Sample CAH Service Line Modeling
Total CAH Outpatient Services at a Glance

			Direct	Contribution	% Contribution	Total	Total	% of
Service Line	Charges	Reimbursement	Cost	Margin	Margin	Cost	Margin	Total Margin
Gastroenterology	$6,470,184	$4,316,557	$ 1,636,600	$2,679,957	62%	$ 2,991,420	$1,325,137	31%
General Medicine	5,857,224	4,179,735	1,873,726	2,306,009	55%	3,565,570	614,165	15%
Orthopedics	3,756,098	2,412,777	984,189	1,428,588	59%	1,767,684	645,093	27%
Cardiovascular	3,019,375	1,829,467	826,926	1,002,541	55%	1,512,335	317,132	17%
Pulmonology	2,518,941	1,485,348	700,139	785,209	53%	1,253,673	231,675	16%
Neurology	2,309,840	1,437,629	604,968	832,661	58%	1,089,274	348,355	24%
Spine	1,982,652	1,387,058	577,991	809,067	58%	1,181,412	205,646	15%
Women's Health	1,859,815	1,289,074	475,812	813,262	63%	904,165	384,909	30%
Urology	1,855,476	1,060,817	469,464	591,353	56%	857,297	203,520	19%
Cancer	1,321,199	753,743	299,558	454,185	60%	557,835	195,908	26%
Ophthalmology	1,056,097	610,393	295,039	315,354	52%	548,832	61,561	10%
ENT	944,869	608,204	325,637	282,567	46%	561,027	47,177	8%
Behavioral Health	757,191	488,080	232,822	255,258	52%	439,772	48,308	10%
Infectious Disease	695,801	452,448	185,733	266,715	59%	328,599	123,849	27%
Endocrinology	329,298	203,341	92,904	110,437	54%	167,527	35,814	18%
Hematology	240,910	142,571	59,897	82,674	58%	112,975	29,596	21%
Dermatology	145,383	102,314	52,367	49,947	49%	93,864	8,450	8%
Neonatology	14,649	8,561	4,814	3,747	44%	9,094	(533)	-6%
Unknown	210	210	114	96	46%	280	(70)	-33%
Totals	$ 35,135,212	$ 22,768,327	$ 9,698,700	$ 13,069,627	57%	$ 17,942,635	$ 4,825,692	21%

Sample Hospital
Financial Contribution by Service Line - Outpatients

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.

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Sample CAH Service Line Modeling Patient Days by Service Line

Sample Hospital Inpatient Days and Discharges by Service Line		
Service Line	**Inpatient Days**	**Discharges**
Pulmonology	472	176
Women's Health	412	176
Newborn	348	164
Gastroenterology	276	88
General Medicine	208	68
Cardiovascular	206	74
Orthopedics	156	104
Other	392	144
Totals	2,470	994

84% of patient days

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.

Sample CAH Service Line Modeling
Pulmonary Inpatient Days

Sample Hospital		
Pulmonary Medicine Days and Discharges by DRG (excludes Swing Bed and Hospice)		
DRG	Inpatient Days	Discharges
153| OTITIS MEDIA & URI W/O MCC	2	2
178| RESPIRATORY INFECTIONS & INFLAMMATIONS W CC	8	4
189| PULMONARY EDEMA & RESPIRATORY FAILURE	2	2
190| CHRONIC OBSTRUCTIVE PULMONARY DISEASE W MCC	62	22
191| CHRONIC OBSTRUCTIVE PULMONARY DISEASE W CC	54	22
192| CHRONIC OBSTRUCTIVE PULMONARY DISEASE W/O CC/MCC	70	28
193| SIMPLE PNEUMONIA & PLEURISY W MCC	8	4
194| SIMPLE PNEUMONIA & PLEURISY W CC	124	34
195| SIMPLE PNEUMONIA & PLEURISY W/O CC/MCC	94	34
197| INTERSTITIAL LUNG DISEASE W CC	8	2
202| BRONCHITIS & ASTHMA W CC/MCC	2	2
203| BRONCHITIS & ASTHMA W/O CC/MCC	6	4
204| RESPIRATORY SIGNS & SYMPTOMS	8	6
206| OTHER RESPIRATORY SYSTEM DIAGNOSES W/O MCC	14	6
208| RESPIRATORY SYSTEM DIAGNOSIS W VENTILATOR SUPPORT <96 HOURS	4	2
983| EXTENSIVE O.R. PROCEDURE UNRELATED TO PRINCIPAL DIAGNOSIS W/O CC/MC(	6	2
Totals	472	176

Ambulatory Sensitive Condition Potential	184	72
	39%	41%

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.

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Sample CAH Service Line Modeling Profitability by Payor

Sample Hospital								
Profitability by Major Payor								
Payor Grouping	Charges	% of Total	Reimbursement	Direct Cost	Total Cost	Total Margin	% of Total Margin	Reimb as a % of Charges
Medicare / Medicare replacement	$21,367,831	42.7%	$12,865,604	$6,568,980	$13,128,167	($262,563)	-2%	60%
Commercial	14,057,416	28.1%	13,635,693	3,973,947	7,644,234	5,991,459	44%	97%
Medicaid / Medicaid replacement	7,749,832	15.5%	3,564,923	2,414,462	4,733,858	(1,168,935)	-33%	46%
Large Payer 1	3,433,505	6.9%	1,579,412	976,034	1,864,142	(284,730)	-18%	46%
Large Payer 2	2,142,478	4.3%	1,152,321	550,878	1,067,167	85,153	7%	54%
Self Pay	1,209,412	2.4%	1,209,412	380,329	691,849	517,563	43%	100%
Business	57,744	0.1%	57,744	27,939	65,117	(7,372)	-13%	100%
Totals	$ 50,018,218	100.0%	$ 34,065,109	$ 14,892,569	$ 29,194,534	$ 4,870,575	14%	68%

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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Jane F. Jerzak, RN, CPA

Partner

Wipfli LLP Health Care Practice

469 Security Blvd.

Green Bay, WI 54313

(920) 662-2821

jjerzak@wipfli.com

www.wipfli.com

Get to know us better:

http://www.ruralcenter.org

@RHRC