NATIONAL RURAL HEALTH RESOURCE CENTER

Delta Region Community Health Systems Development (DRCHSD)

2022 Financial Webinar Series

National Rural Health Resource Center

Stroudwater Associates

Delta Region Community Health Systems Development (DRCHSD) Program

Delta Regional Authority

U.S. Department of Health & Human Services

HRSA

Federal Office of Rural Health Policy

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NATIONAL RURAL HEALTH RESOURCE CENTER

The Center's Purpose

The National Rural Health Resource Center (The Center) is a nonprofit organization dedicated to sustaining and improving health care in rural communities. As the nation's leading technical assistance and knowledge center in rural health, The Center focuses on five core areas:

- Transition to Value and Population Health
- Collaboration and Partnership
- Performance Improvement
- Health Information Technology
- Workforce

NATIONAL RURAL HEALTH RESOURCE CENTER

Diversity, Equity, Inclusion, & Anti-racism

Building a culture where difference is valued.

The Center is committed to DEI and anti-racism. We create an environment that reflects the communities we live in and serve; a place where everyone feels accepted and empowered to be their full, authentic selves; and where everyone belongs.

We understand the impact of and seek to defeat racism and discrimination in ourselves, our workplace, and the world. This guides how we cultivate leaders, build our programs and resources, and deliver our technical assistance.

We are an organization that honors, celebrates, and respects all dimensions of diversity. These principles are central to our mission and to our impact.

Read more at ruralcenter.org/DEI

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Pre-Polling Questions

I am ____ in my understanding of critical access hospital (CAH) inpatient and outpatient volume and impacts on profitability.

I am ____ in my understanding of how to evaluate profitability related to non-cost-based services.

Todays Speaker

Eric Shell, BACC, MBA, CPA
Chairman
Stroudwater Associates

Understanding CAH Economics: A Framework for Decision Making

DRCHSD Financial Webinar Series 2022

July 21, 2022

Eric K. Shell, MBA, Chairman

STROUDWATER

Presentation Overview

Objectives

CAH Economic Overview

CAH Economics

Questions and Answers

Summary/Discussion

Objectives

Better understand:

- CAH economic framework for decision making
- Important Drivers of CAH profitability

More questions after presentation than before

- Transformation begins when we change the questions being asked!

ECONOMIC OVERVIEW

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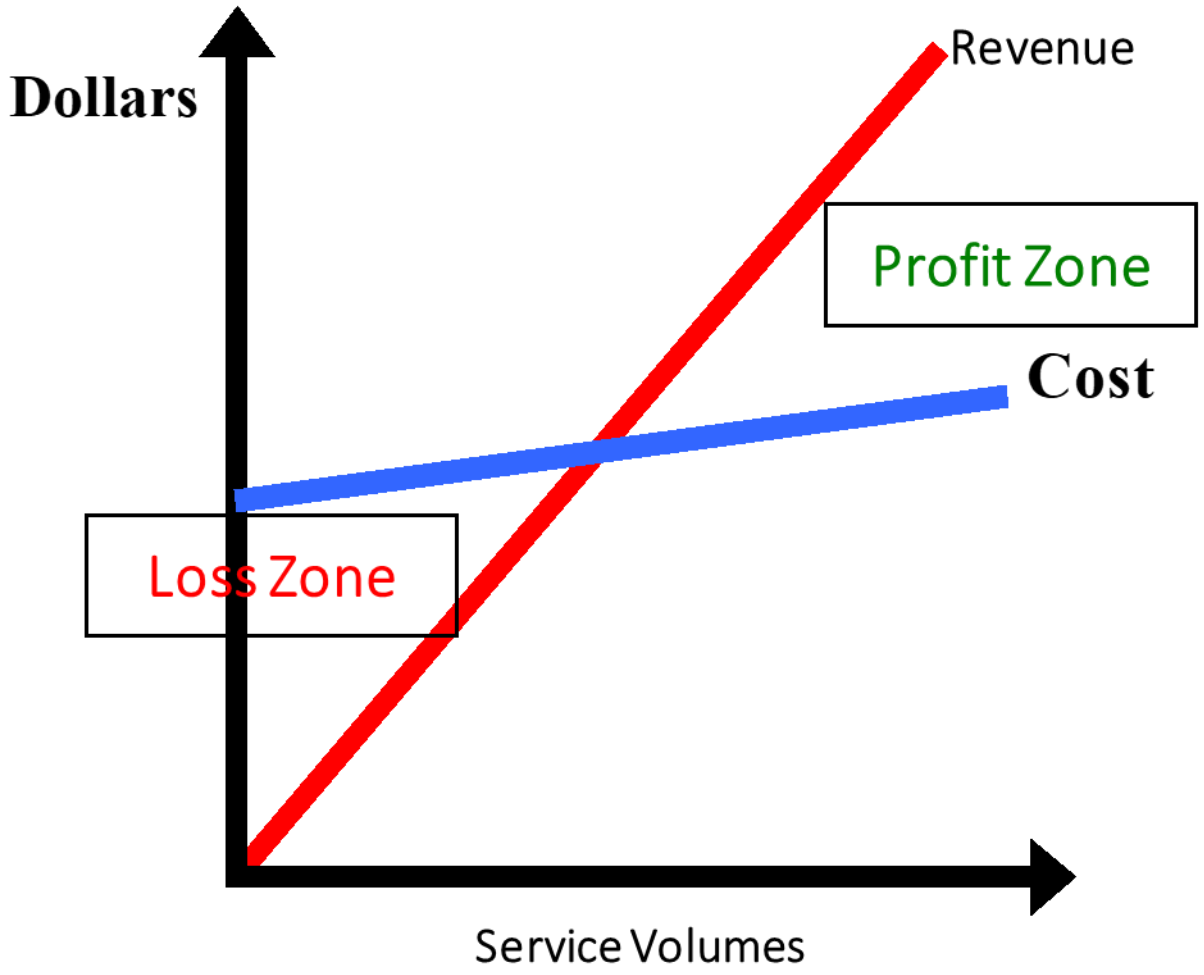
CAH Economics – Overview

- Rural Hospital Cost Structure
  - Variable Cost
    - Definition: Expenses that change with changes in activity
    - Examples: *Pharmaceuticals, Reagents, Film, Food*
  - Fixed Cost
    - Definition: Expenses that do not change with changes in activity
    - Examples: *Salaries and benefits (??), Rent, Utilities*
  - Mixed Cost (Step Fixed Costs)
    - Costs that remain fixed through a range of volume growth, then jump to next level
  - Rural hospitals have inordinately high fixed costs relative to revenue (E.g., ER Standby, acute care nursing costs, etc.)
  - High fixed cost nature of rural hospitals focus efforts in several areas
    - Volume
    - Unit price increases
    - Fixed cost reduction or transition to variable expenses

CAH Economics – Overview (continued)

- Rural Hospital Cost Structure



CAH Economics – Food for Thought

- Maximizing CAH benefit does not result in profitability
- Like any business
  - Profits = (average revenue per unit - average cost per unit)*Units
    - Average revenue per units = Total revenue / Total Units
    - Average cost per units = Total costs / Total Units
  - Achieving profits requires that hospitals increase fees for services generated and/or reduce per unit costs
    - Strategy 1: Reducing total costs
    - Strategy 2: Increase fees
    - Strategy 3: Increasing units of service
    - Strategy 4: ????

CAH ECONOMICS Q&A

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CAH Economics – Questions and Answers

- Quotes from Around the Horn (1)
  - Vermont CAH Administrator
    - *"Our cost-based payer mix is nearly 60%. If we increase our expenses, we generate more revenue and margin"*
  - MS Delta CAH Administrator
    - *"Why do we want to cut expenses if we lose revenue?"*
  - New York CAH Administrator
    - *"My Medicare per diems are $1,500. Our number one strategic initiative is to grow acute census from 3 to 4 and we will be profitable."*
      - Important Fact: Medicare Acute payer mix = 92%
  - Illinois CAH Administrator
    - *"It takes four outpatient encounters to equal one inpatient day. Our efforts are focused on inpatient services."*

CAH Economics – Questions and Answers (part 0)

- Quotes from Around the Horn (2)
  - Alaska CAH Administrator
    - *"How can we grow outpatient radiology services when these services are costing us $800 per study?"*
  - MS Delta CAH Administrator
    - *"My Medicare per diems are $1,400. My commercial per diems are $950. We are going to exit commercial to focus on Medicare."*
  - MS Delta CAH Administrator
    - *Reference lab tests reduce our Medicare revenue. We want to get out of this business.*

CAH Economics – Questions and Answers (part 1)

- Questions to be addressed
  - How does my hospital generate cash reserves?
  - Why should we cut expenses if we lose revenue?
  - If our Medicare I/P per diems are higher than and our commercial per diems, should we focus our efforts on growing Medicare volume and decreasing commercial volume?
  - Should my hospital be focusing on inpatient volume or outpatient volume?
  - How should we look at non-hospital businesses managed by our CAH?

CAH Economics – Questions and Answers (part 2)

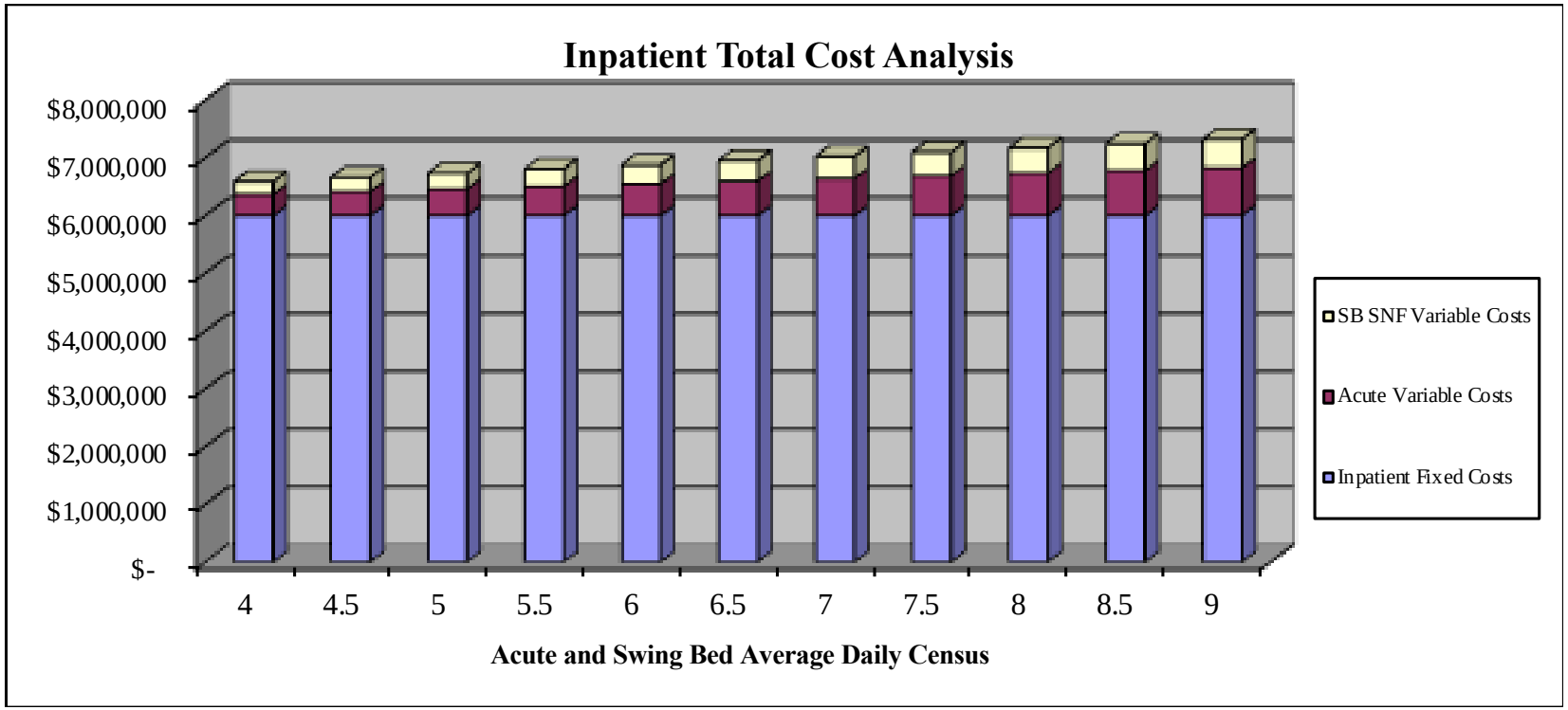
- Hypothetical Model Used to Evaluate CAH Economics

Hypothetical Model Assumptions:

Expenses:		
Inpatient:		
Acute Variable Costs/Day	**$**	**250**
Swing-Bed SNF Variable Costs/Day	**$**	**150**
Total Fixed Rountine and Ancillary Costs	**$**	**6,000,000**
Outpatient:		
Outpatient Variable Costs/Unit	**$**	**50**
Total Fixed Outpatient Costs	**$**	**10,000,000**
Revenue:		
Inpatient:		
Acute Revenue/Day (Non-Cost Based)	**$**	**1,400**
Swing-Bed SNF Revenue/Day (Non-Cost Based)	**$**	**500**
Swing-Bed NF Revenue/Day (Non-Cost Based)	**$**	**250**
Outpatient:		
Outpatient Revenue Per Unit (Non-Medicare)	**$**	**200**
Payer Mix:		
Inpatient:		
Medicare/Medicaid Acute Payer Mix		**70%**
Medicare Swing-Bed SNF		**100%**
Outpatient:		
Medicare/Medicaid Outpatient Payer Mix		**50%**

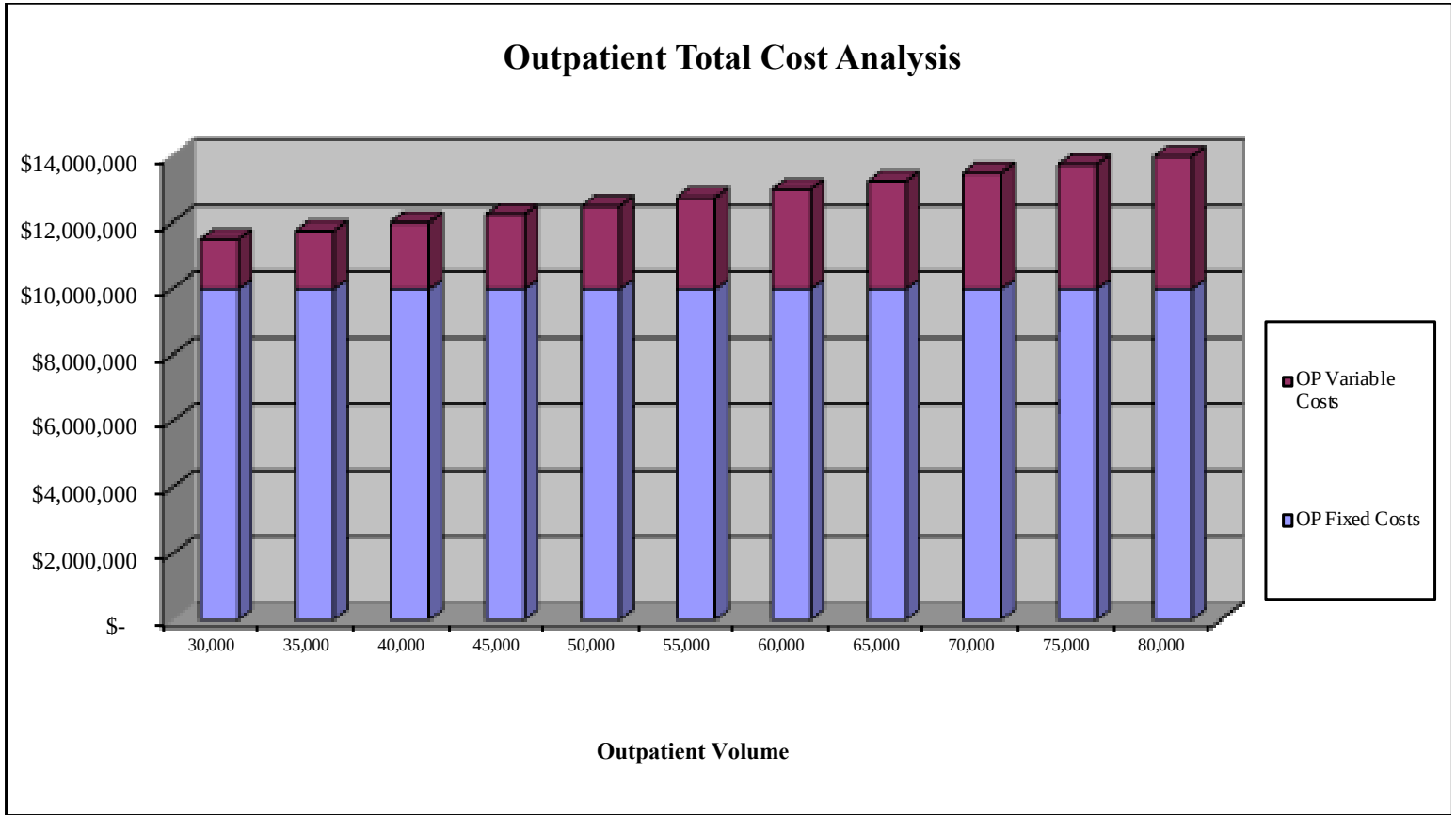
Economic Model: Inpatient Total Costs

- Hypothetical example (continued)
  - Acute Variable Costs = $250/day
  - Swing Bed Variable Costs = $150/day
  - Fixed Costs = $6,000,000



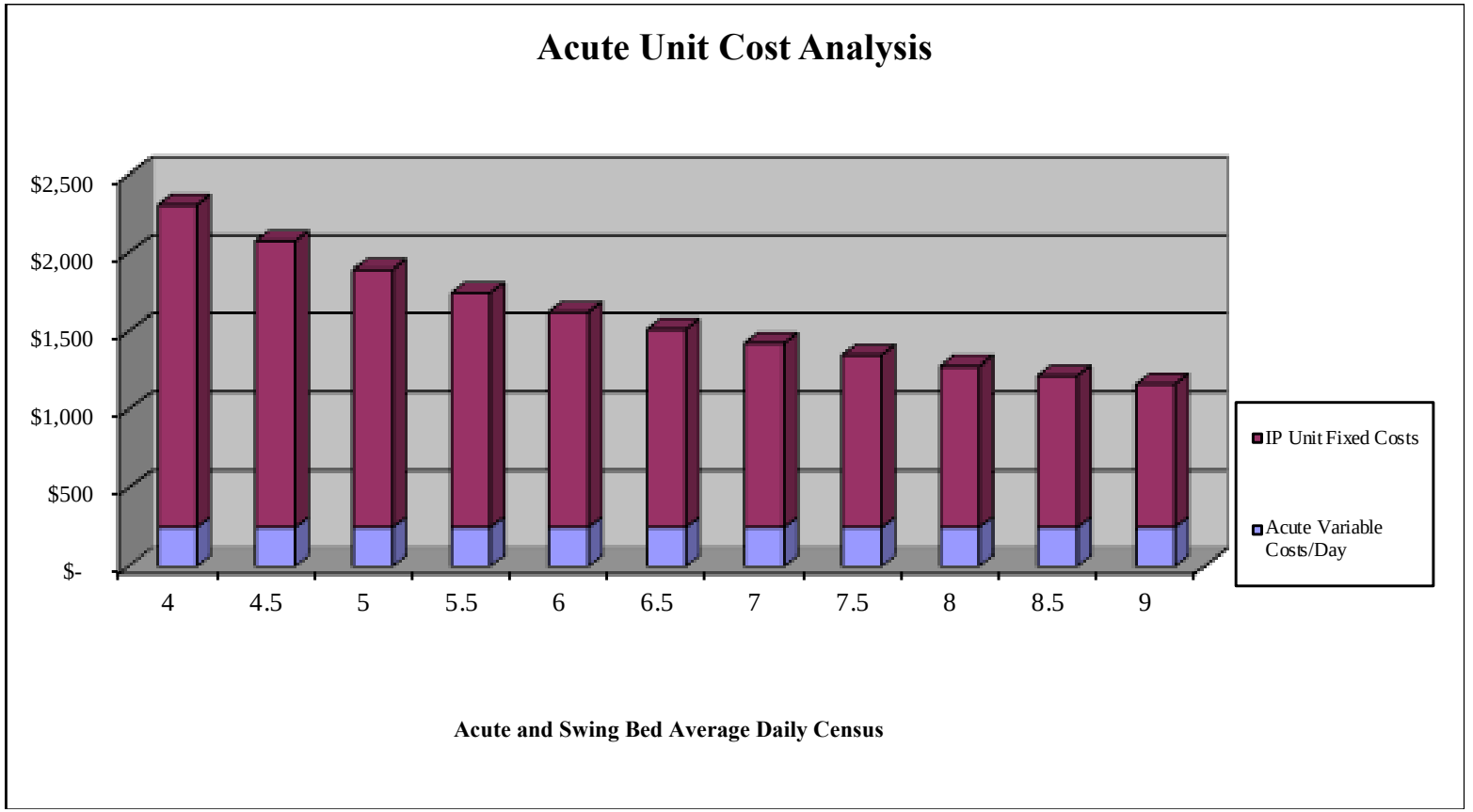
Economic Model: Outpatient Total Costs

- Hypothetical example (continued)
  - Outpatient Variable Costs = $50/unit
  - Outpatient Fixed Costs = $10,000,000



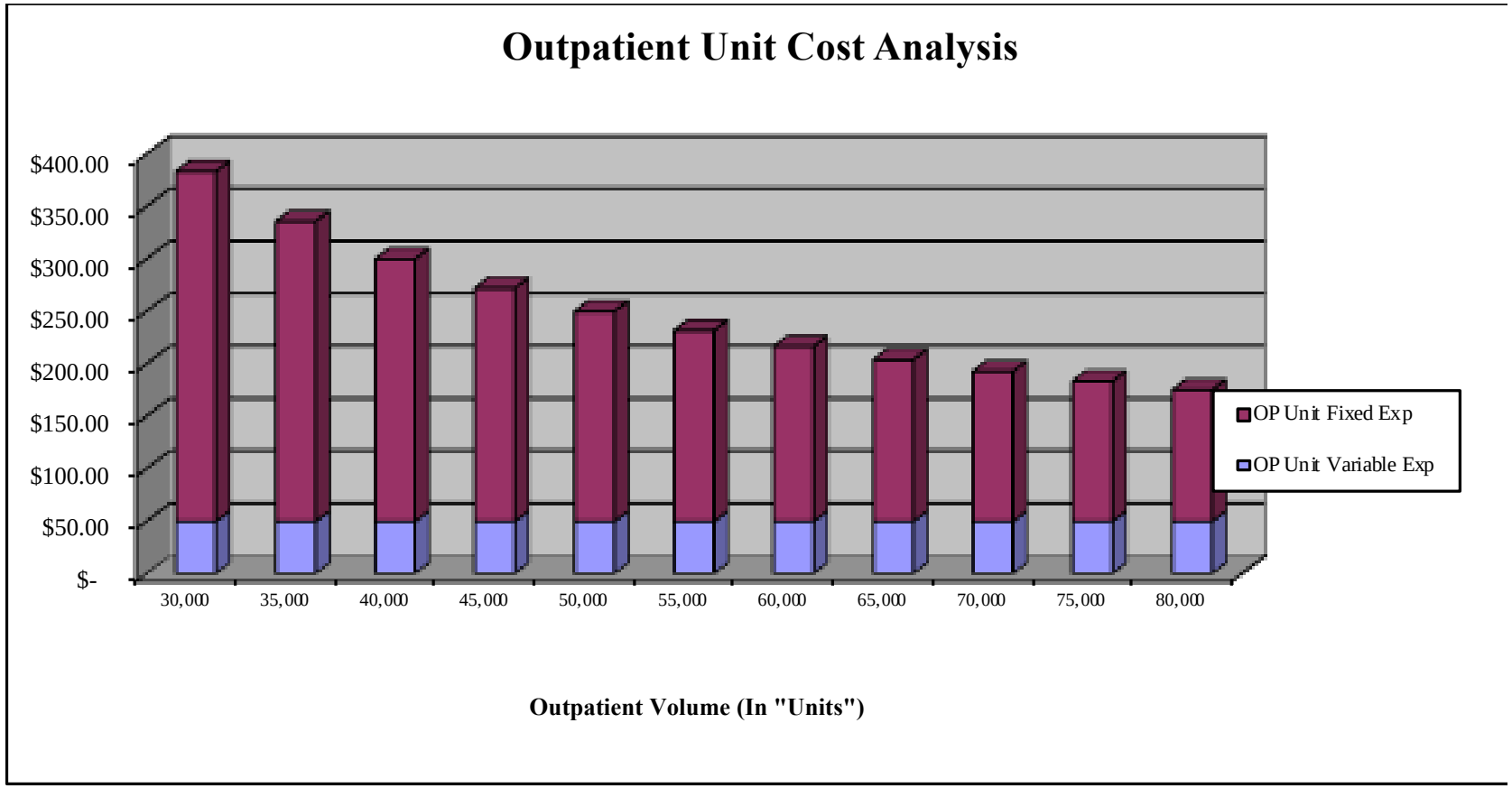
Economic Model: Inpatient Per Unit Costs

- Hypothetical example (continued)
  - As volume increases, fixed costs are allocated over large base
  - Result → lower Unit Cost



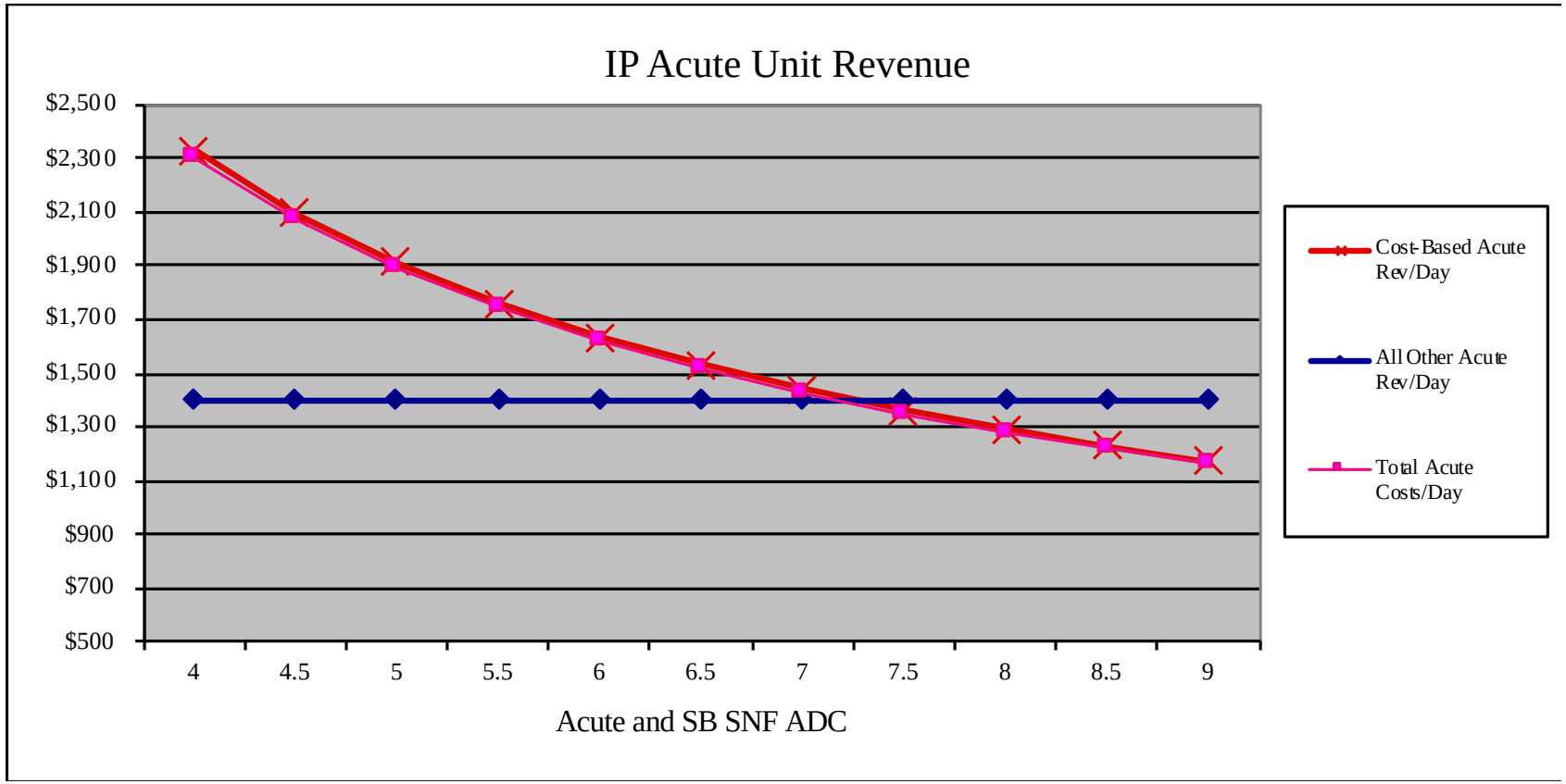
Economic Model: Outpatient Per Unit Costs

- Hypothetical example (continued)
  - Same applies to Outpatient costs!



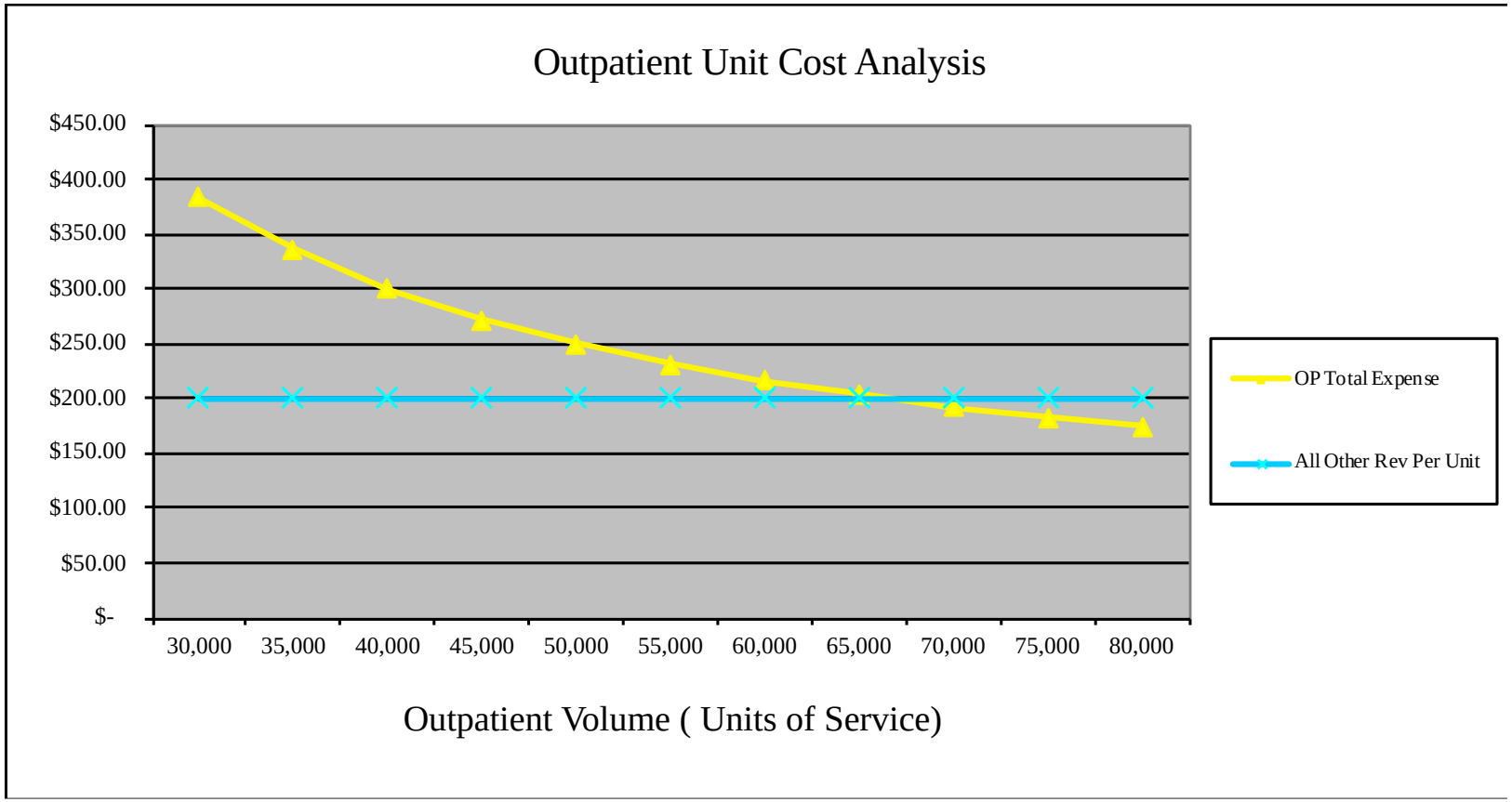
Acute Per Unit Revenue

- Hypothetical example (continued)
  - Non Cost-Based Per Diems > Cost-Based Per Diems once Acute unit cost falls below $1400
    - Note: Slightly higher acute variable costs cause higher breakeven



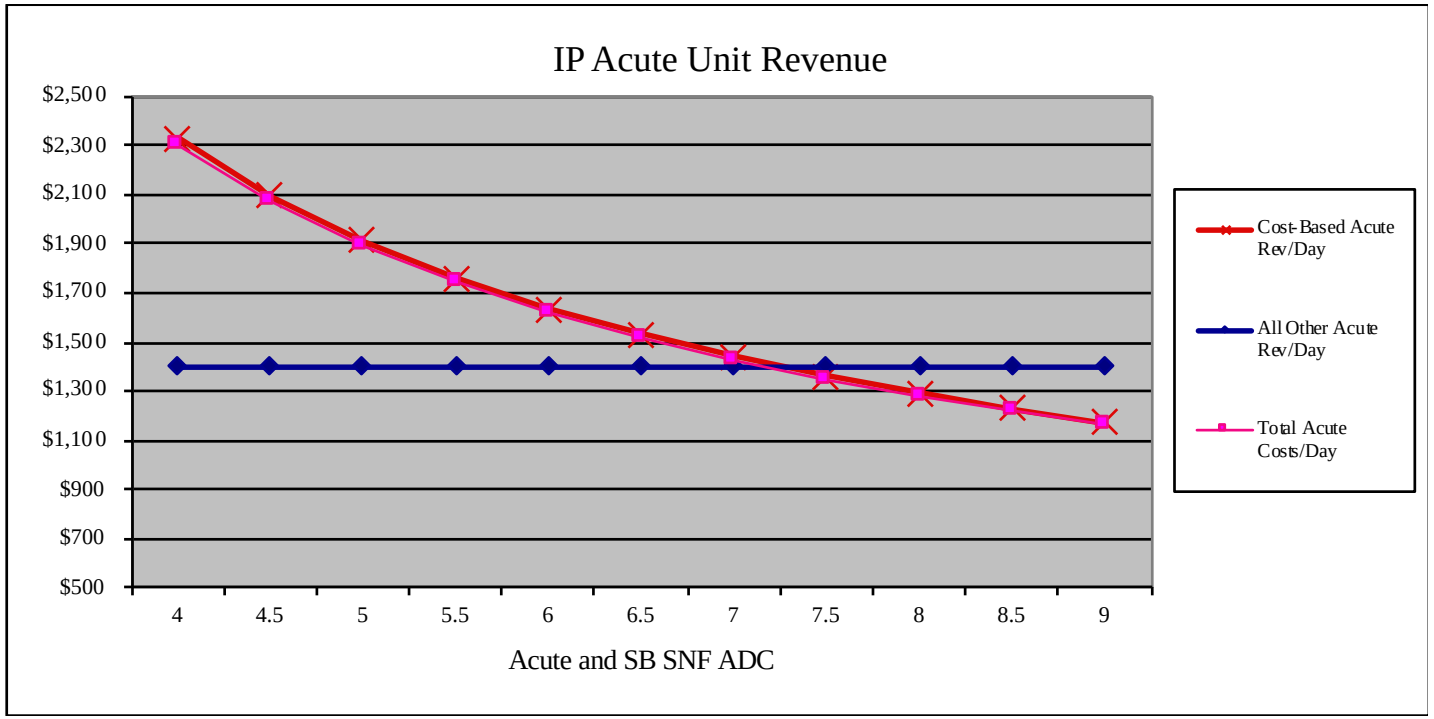
Outpatient Per Unit Revenue

- Hypothetical Example (continued)
  - Non Cost-Based Payment > Cost-Based Payment once Acute unit cost falls below $200



CAH Economics – Questions and Answers (part 3)

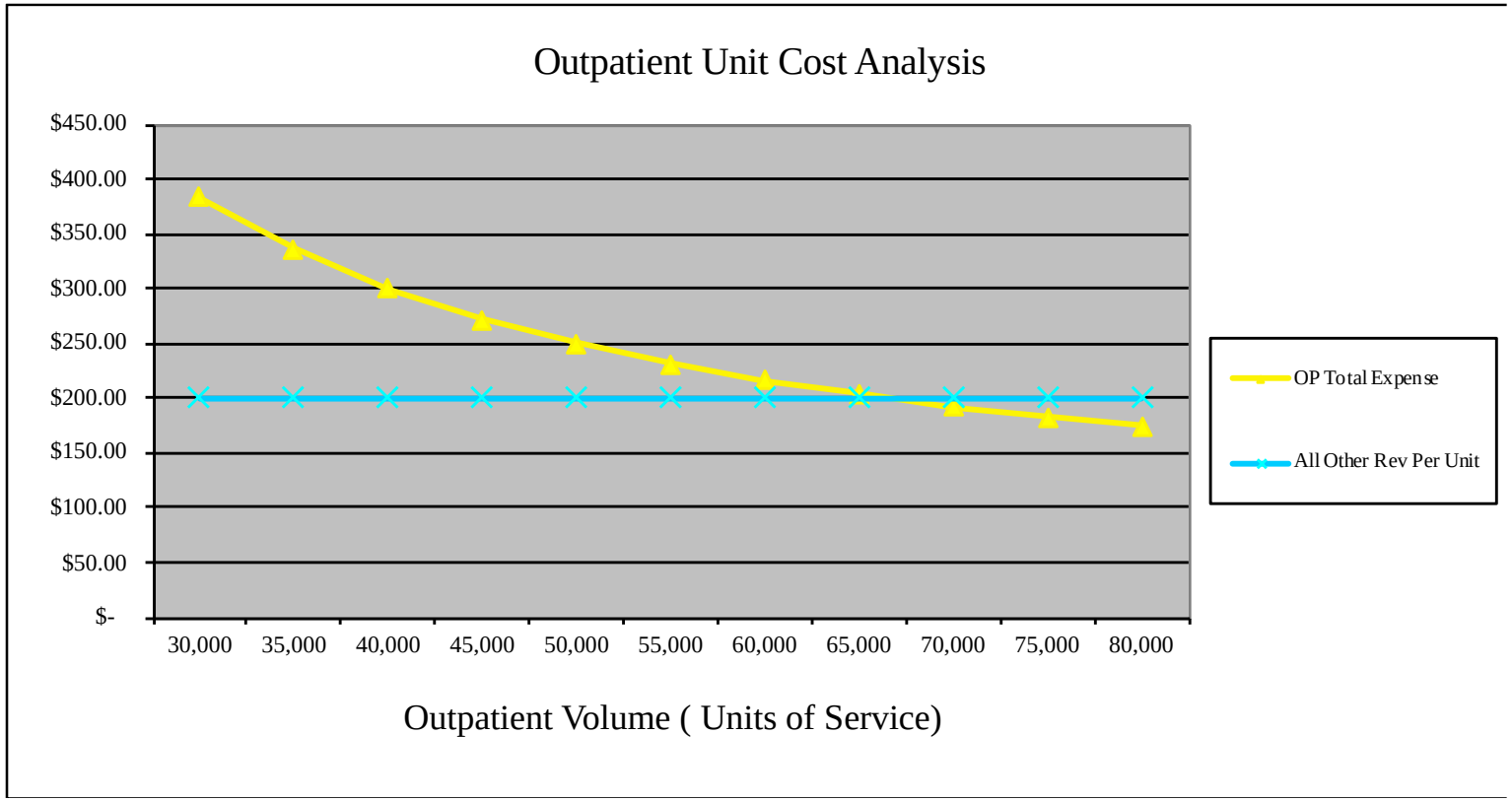
- *How does my hospital generate cash reserves?(1)*
  - A look at Acute Per Unit Revenue
    - Hypothetical Example (continued)



    - Non-Medicare Per Diems > Medicare Per Diems once Acute unit cost falls below $1,400
      - Note: Slightly higher acute variable costs cause higher breakeven

CAH Economics – Questions and Answers (part 4)

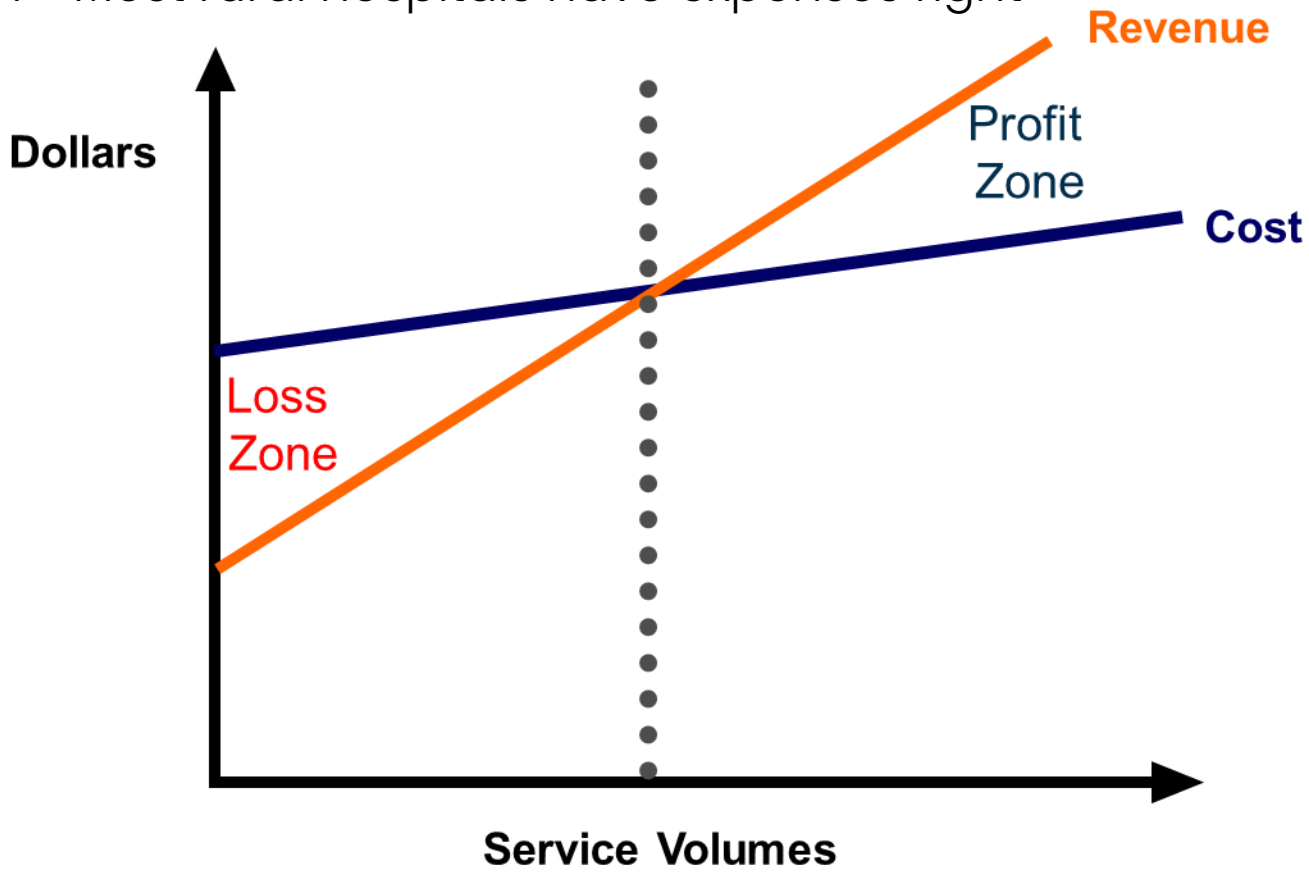
- *How does my hospital generate cash reserves?(2)*
  - A look at OP Per Unit Revenue
    - Hypothetical Example (continued)



- Non-Medicare OP Rev > Medicare OP Rev once OP unit cost falls below $200

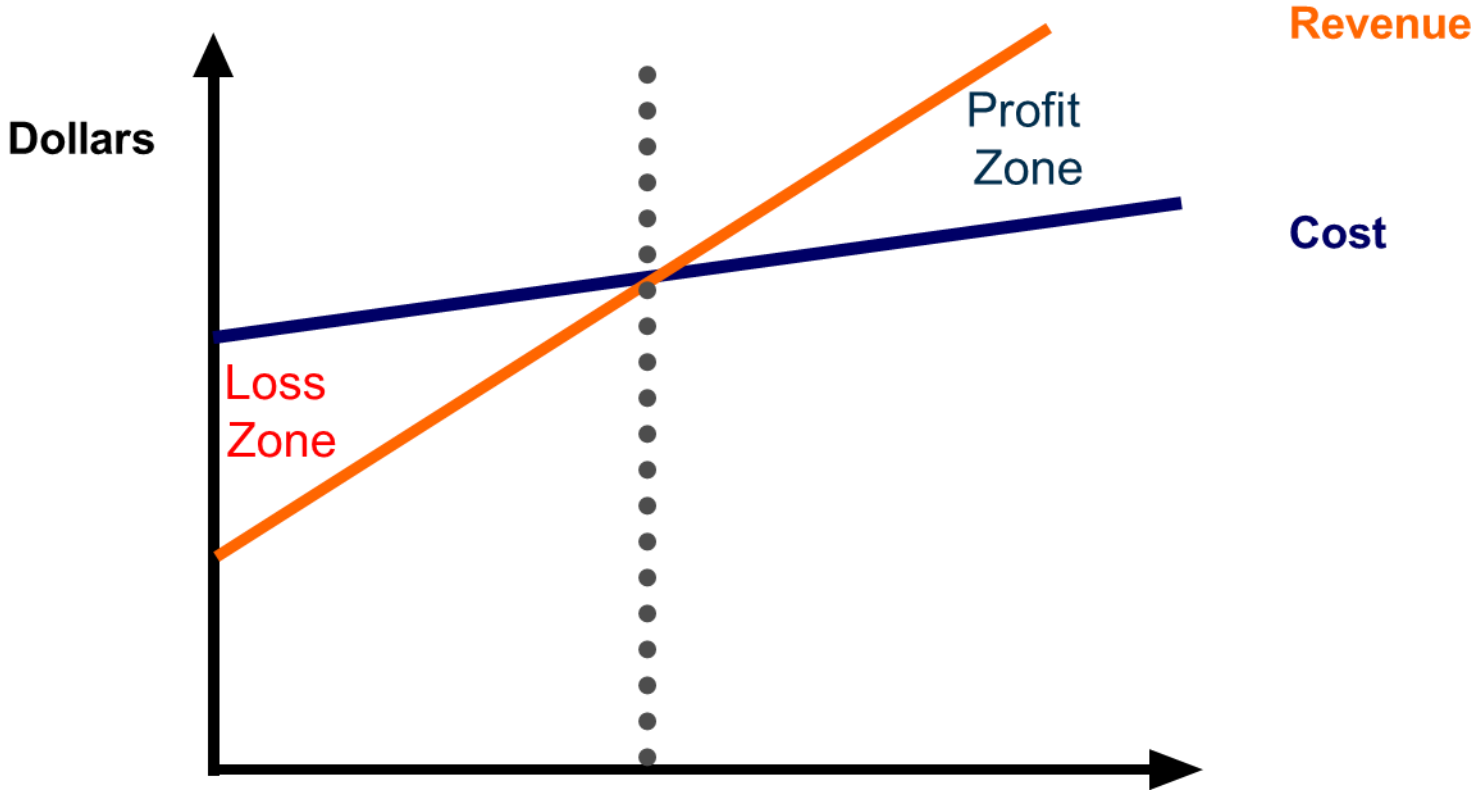
CAH Economics – Questions and Answers (part 5)

- *How does my hospital generate cash reserves? (3)*
  - Strategy 1: Decrease Expenses
    - Fixed Nature of standby costs, regulatory costs, etc. often make this a difficult option - Most rural hospitals have expenses right



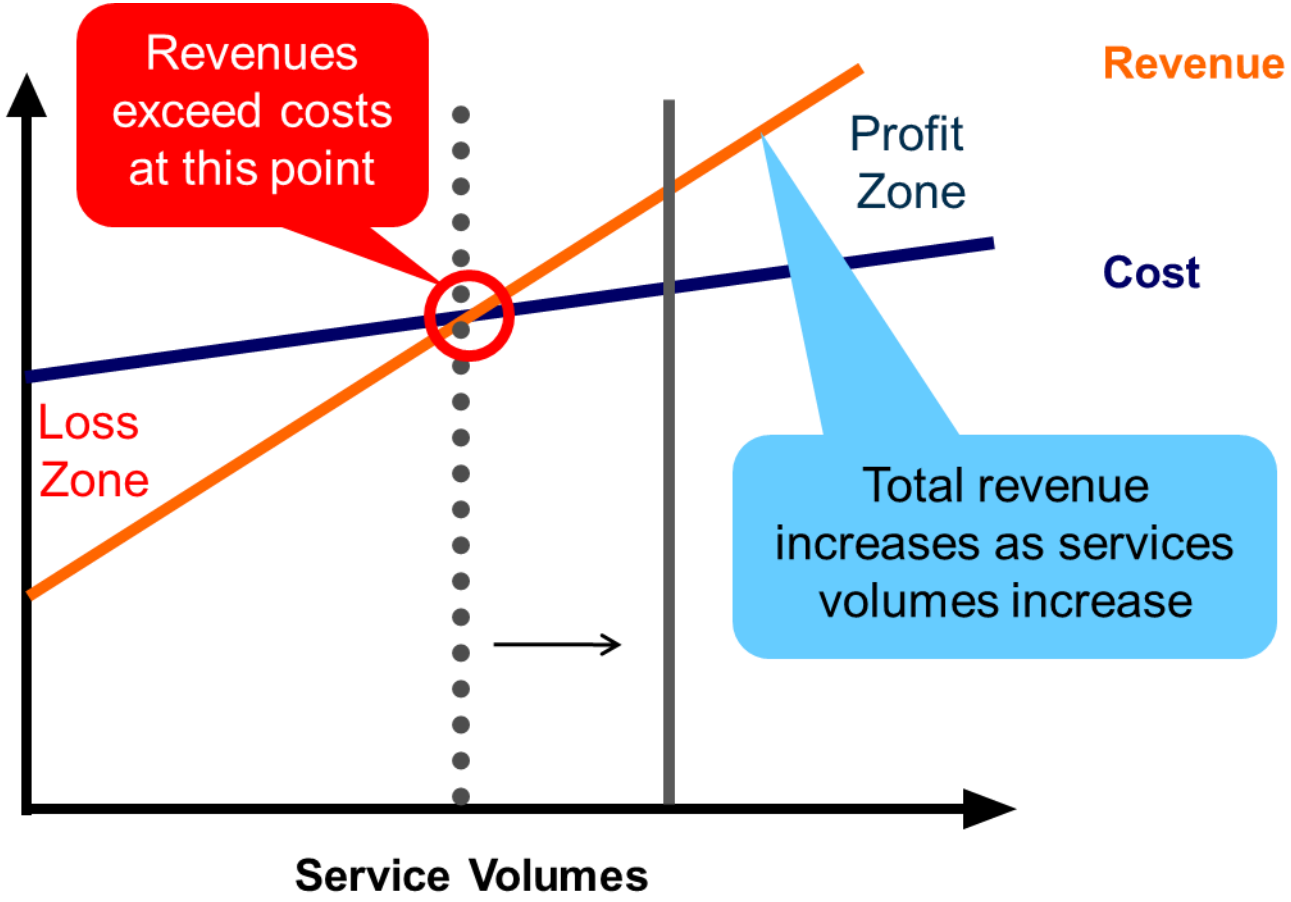
CAH Economics – Questions and Answers (part 6)

- *How does my hospital generate cash reserves? (4)*
  - Strategy 2: Increase Fees
    - Charge master update
    - Renegotiate third party contracts
    - Better Revenue cycle functions



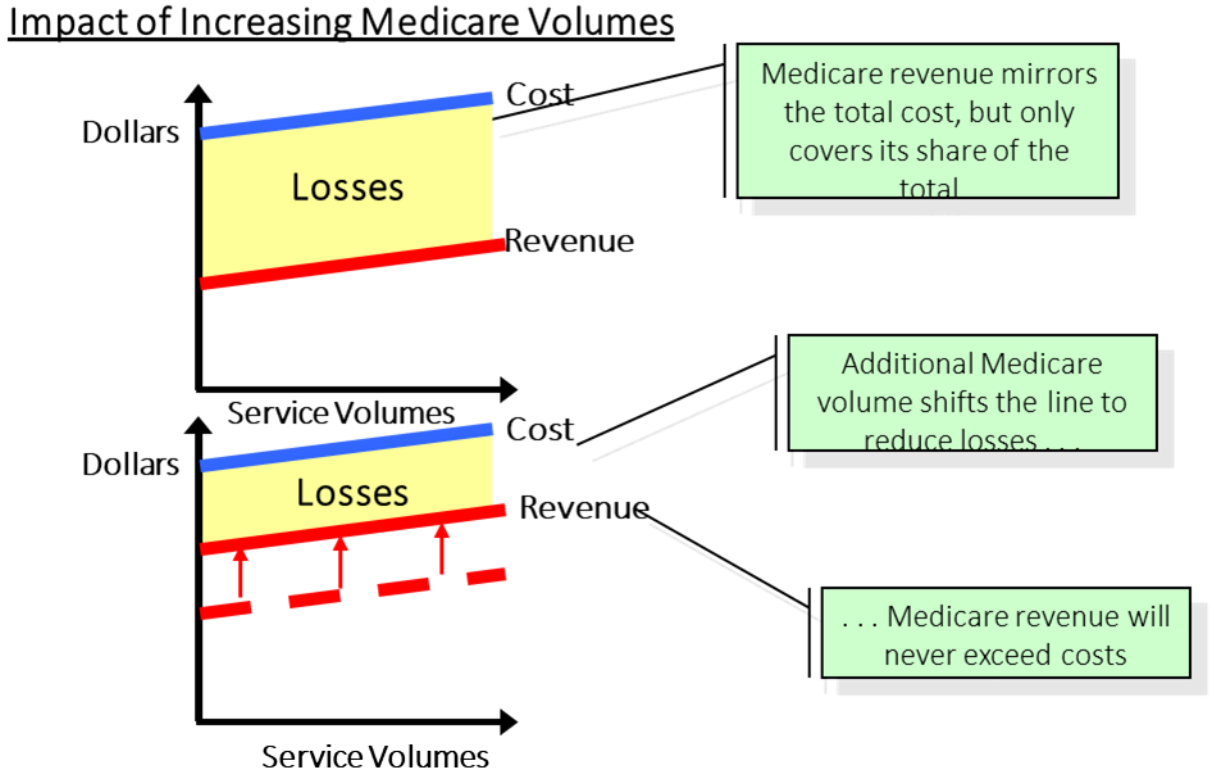
CAH Economics – Questions and Answers (part 7)

- *How does my hospital generate cash reserves? (5)*
  - Strategy 3: Increase Volumes
    - More volume reduces the average cost per unit of service by spreading the high fixed costs over more patients



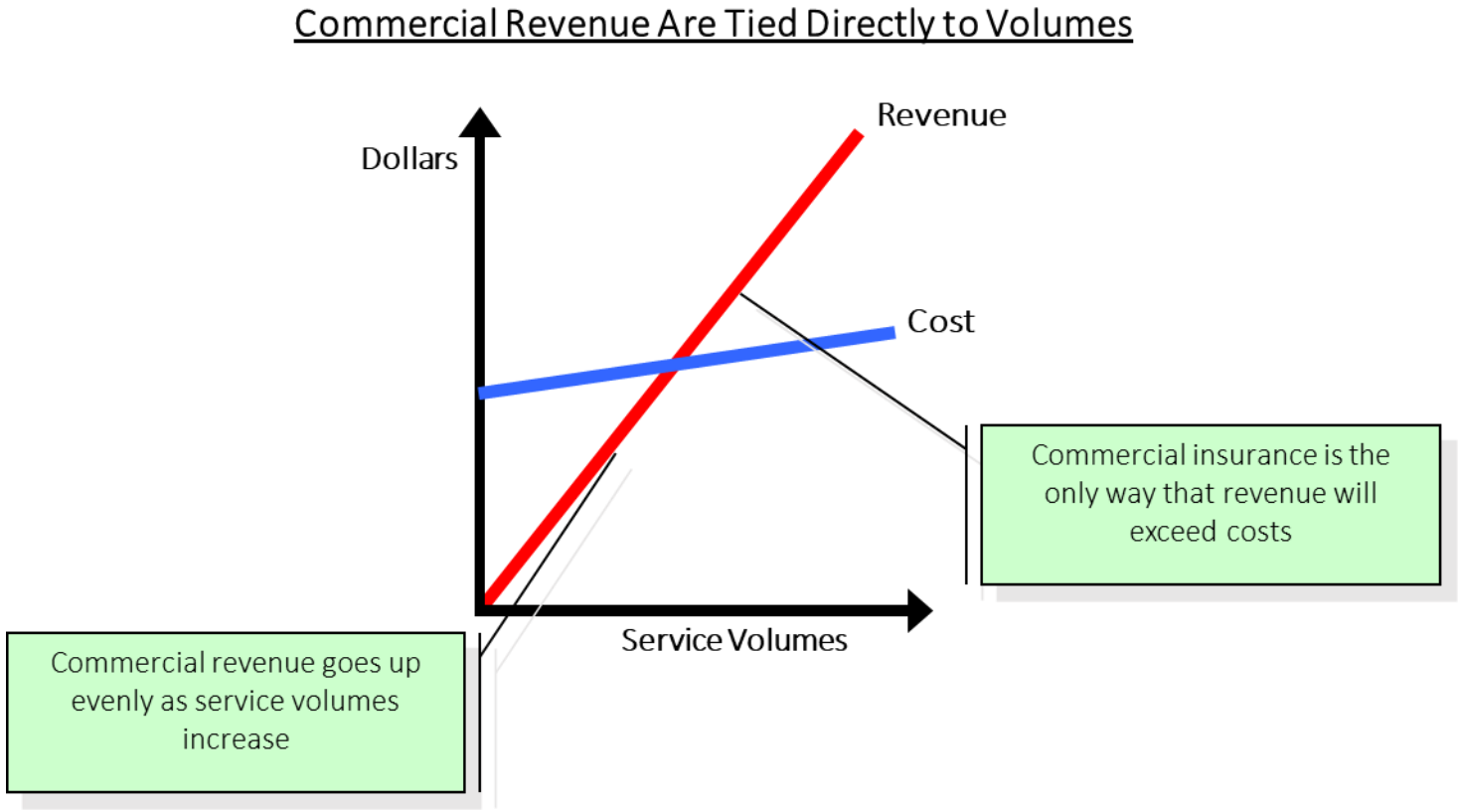
CAH Economics – Questions and Answers (part 8)

- *How does my hospital generate cash reserves? (6)*
  - Strategy 4: Grow Non-Medicare Business
    - *Strategy assumes incremental margin on non-Medicare offsets reduction in Medicare per unit revenue* *********



CAH Economics – Questions and Answers (part 9)

- *How does my hospital generate cash reserves? (7)*
  - Strategy 4: Grow Non-Medicare Business (continued)
    - Commercial revenue is the only potential source of profit
      - Overall services must be increased to exceed unit costs



CAH Economics – Questions and Answers (part 10)

- *Why do we want to cut expenses if we lose revenue? (1)*

Scenario A - Current State

	ADC	Medicare %	Total Days	Medicare Days	Non-Medi Days	Rate Per Day	Non-Medi Reimburs
Acute Days	7.78	77%	2,840	2,177	663	$ 800	$ 530,400
Swing Bed Days	3.31	96%	1,207	1,156	51	$ 125	$ 6,375
Observation Days	1.22	77%	444	340	104	$ 450	$ 46,643
Total Days			4,491	3,673	818		$ 583,418
Routine Costs			$ 1,938,238				
Routine Cost/Day			$ 431.58	$ 431.58			
Medicare Reimbursement				$ 1,585,353			
Non Medicare Reimbursement				$ 583,418			
Total Reimbursement				$ 2,168,772			
Total Routine Costs				$ 1,938,238			
Net "Profit" (Loss) on Routine Services				$ 230,534			

Scenario B - Decrease routine service expenses 15%

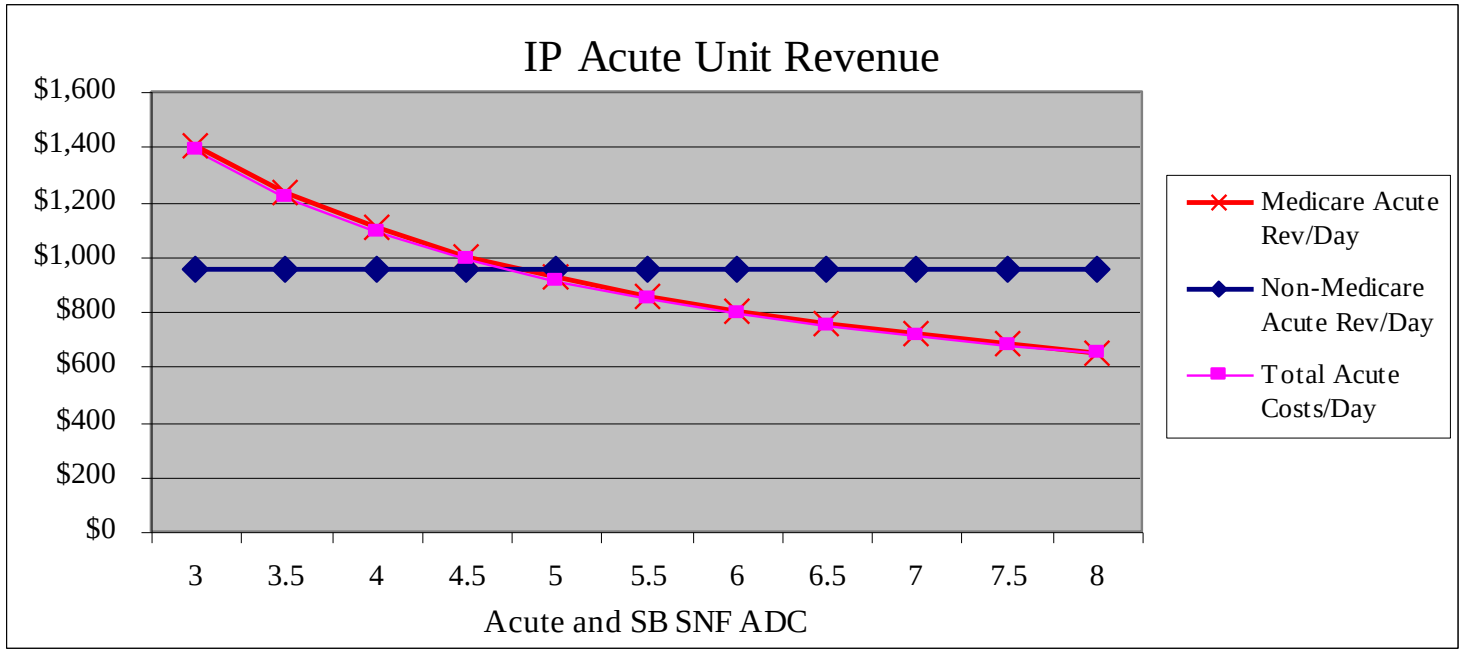
	ADC	Medicare %	Total Days	Medicare Days	Non-Medi Days	Rate Per Day	Non-Medi Reimburs
Acute Days	7.78	77%	2,840	2,177	663	$ 800	$ 530,400
Swing Bed Days	3.31	96%	1,207	1,156	51	$ 125	$ 6,375
Observation Days	1.22	77%	444	340	104	$ 450	$ 46,643
Total Days			4,491	3,673	818		$ 583,418
Base Routine Costs			$ 1,938,238				
Additional Routine Costs			$ (290,736)				
Routine Costs			$ 1,647,502				
Routine Cost/Day			$ 366.85	$ 366.85			
Medicare Reimbursement				$ 1,347,550			
Non Medicare Reimbursement				$ 583,418			
Total Reimbursement				$ 1,930,969			
Total Routine Costs				$ 1,647,502			
Net "Profit" (Loss) on Routine Services				$ 283,467			

CAH Economics – Questions and Answers (part 11)

- *Why do we want to cut expenses if we lose revenue? (2)*
  - Observations
    - Reducing routine costs decreases Medicare revenue (assumes volume remains constant)
      - Medicare Margin remains constant
    - Reducing routine costs decreases unit costs
      - Non-Medicare margins increase
      - Total margin increases ($283K > $231K)
  - Answer
    - Reducing unit cost decreases Medicare revenue and increases total margin
      - Exception: Additional expenses as an investment in reducing future unit costs

CAH Economics – Questions and Answers (part 12)

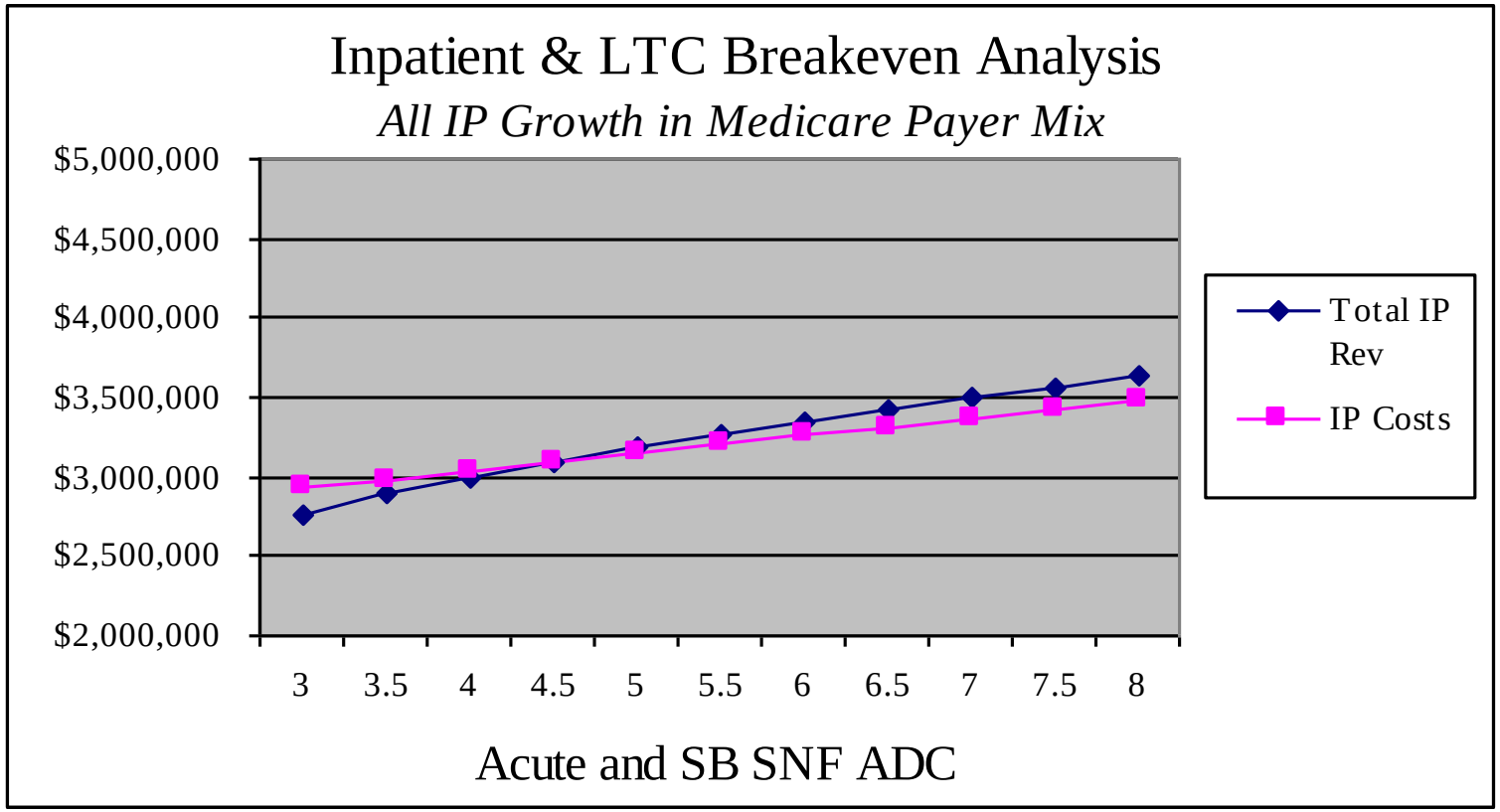
- *If our Medicare per diems are higher than our commercial per diems, should we focus on growing Medicare and decreasing commercial? (1)*
  - A look at Medicare Per Diems
    - Difference between Interim Per Diems and Settled Per Diems



  - *As Volume changes, Medicare Per Diems Change*

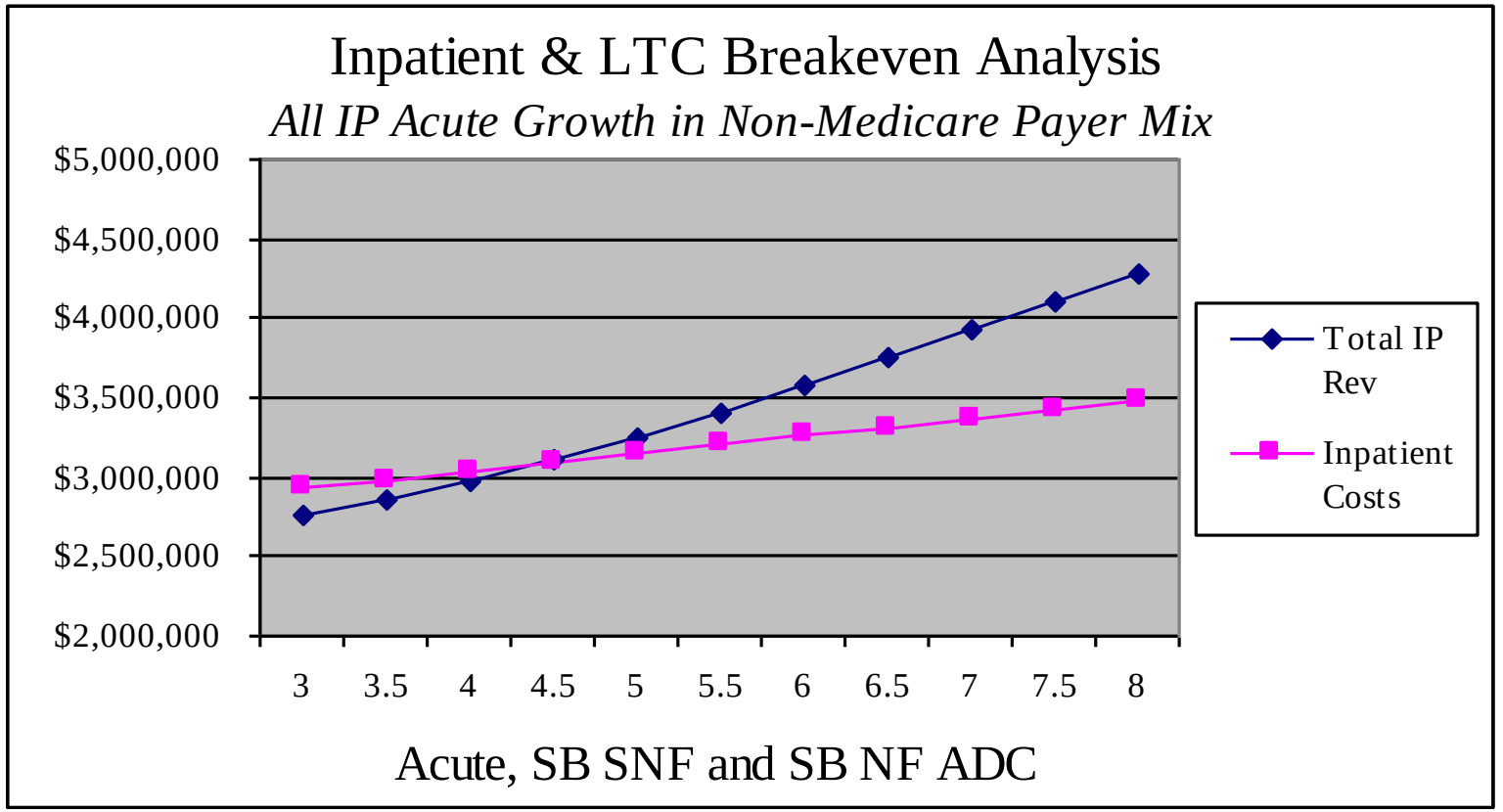
CAH Economics – Questions and Answers (part 13)

- *Growing Medicare and decreasing commercial (2)*
  - Hypothetical Example
    - Impact of all acute growth in Medicare



CAH Economics – Questions and Answers (part 14)

- *Growing Medicare and decreasing commercial (3)*
  - Hypothetical Example (continued)
    - Impact of all acute growth in non-Medicare (paying)



CAH Economics – Questions and Answers (part 15)

- *Case Study: Growing Commercial Outpatient Business - Radiology*

Growing outpatient non-Medicare radiology services by 50 tests paid at an average reimbursed rate of $82 contributes $2,178 to profit or approximately $44/test

Model A: Radiology Base Case (2004 Cost Report)

	Units	Medicare Payer Mix	Medicare Units	Other Units	Payment Per Unit*	Other Payment
Radiology Services	1,195	33%	399	796	$ 82	$ 65,179
Radiology Fixed Costs	$ 105,632	***				
Radiology Variable Costs	$ 11,950	**				
Total Rad OP Costs	$ 117,582					
Radiology OP Units	1,195					
Outpatient Unit Costs	$ 98.39		$ 98.39			
Medicare Payment			$ 39,283			$ 39,283
Total Payment						$ 104,462
Radiology OP Costs						$ 117,582
Net Margin						$ (13,120)

* Assume average Charge per unit*average 3rd party payment (80%) and 2005 charge master inc.
** Assumes variable costs of an additional X-Ray test of $10
*** Assumes fully allocated radiology costs less inpatient cost allocation, less variable costs

Model B: 50 Additional Blue Cross Radiology Tests

	Units	Medicare Payer Mix	Medicare Units	Other Units	Payment Per Unit	Other Payment
Radiology Services	1,245	N/A	399	846	$ 82	$ 69,274
Radiology Fixed Costs	$ 105,632					
Radiology Variable Costs	$ 12,450					
Total Rad OP Costs	$ 118,082					
Radiology OP Units	1,245					
Outpatient Unit Costs	$ 94.84		$ 94.84			
Medicare Payment			$ 37,866			$ 37,866
Total Payment						$ 107,140
Radiology OP Costs						$ 118,082
Net Margin						$ (10,942)
Difference						$ 2,178

CAH Economics – Questions and Answers (part 16)

- *If our Medicare per diems are higher than our commercial per diems, should we focus on growing Medicare and decreasing commercial?(9)*
  - Observations
    - Medicare Interim Per Diems are not Actual Per Diems
    - At lower volumes, higher Medicare acute payer mix reduces loss
    - At higher volumes, higher Medicare acute payer mix reduces profits
    - Breakeven point for both models is similar
      - When unit costs = Commercial Per Diems
    - Caution with growing low paying non-Medicare business
      - Essential to accurately define contribution margin on new services
  - Answer: NO (Maybe)
    - Growing all business is important to reduce unit costs
    - Growing non-Medicare business is essential for profitability
      - However - Growing low-paying non-Medicare business may reduce margin

CAH Economics – Questions and Answers (part 17)

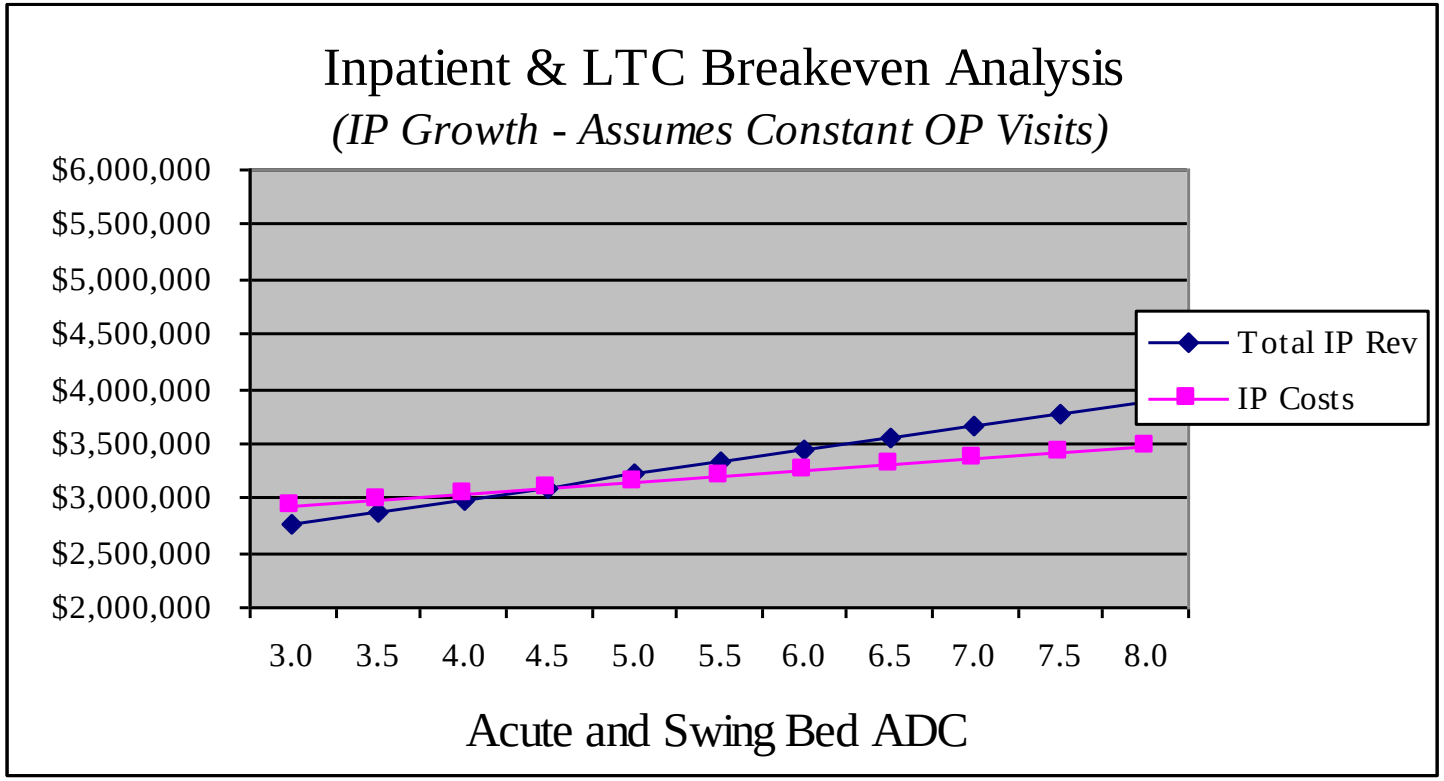
- *Should my hospital be focusing on inpatient volume or outpatient volume? (1)*
  - Revenue from inpatient services is critical to the financial health of the hospital supporting a large number of FTEs
  - Example
    - Inpatient services supported approximately 100 FTEs

Historical Average Daily Census (Acute)	10		
Projected ADC (Acute)	0.5		
Decrease in ADC	9.5		
Annualized Decrease in Acute Days			3,468
Historical Per Diem Revenue (Acute)		$	1,000
Reduction in Inpatient Net Revenue		$	3,467,500

  - Competition from urban hospitals drawing rural market share
  - Nursing staff shortage causing problems with inpatient units

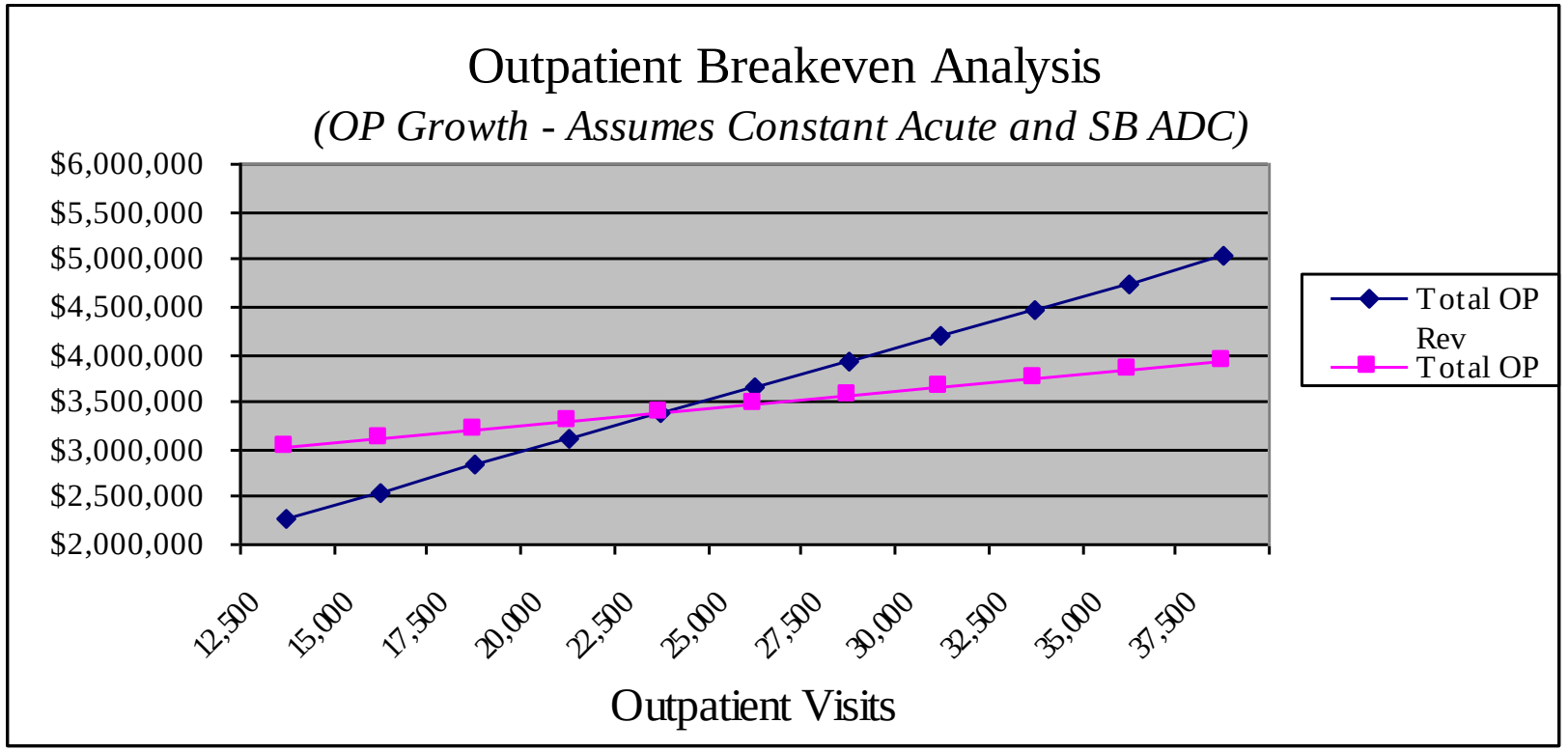
CAH Economics – Questions and Answers (part 18)

- *Should my hospital be focusing on IP volume or OP volume?(2)*
  - Hypothetical Example
    - All Growth in Acute census; Outpatient visits remain constant



CAH Economics – Questions and Answers (part 19)

- *Should my hospital be focusing on IP volume or OP volume?(3)*
  - Hypothetical Example (continued)
    - Growth in Outpatient visits; Inpatient and SB ADCs remain constant



CAH Economics – Questions and Answers (part 20)

- *Should my hospital be focusing on inpatient volume or outpatient volume?(4)*
  - Observations
    - Inpatient services essential to covering overhead costs of hospital
    - Focus on inpatient services reduces both losses and margins
      - Why????
    - Focus on outpatient service increases both losses and margins
      - Why????
    - Necessary for incremental commercial business to generate enough margin to cover lost Medicare per unit revenue
  - Answer: Both!
    - Inpatient services essential for covering significant portion of overhead expenses on a cost basis
      - Generally much higher Medicare Payer Mix
    - Generating additional inpatient ancillary services "pulls" costs from ancillary departments away from FFS revenue
      - Reduces ancillary unit costs for margin opportunity
    - Outpatient services have lower Medicare payer mix thus enabling margin opportunity
      - Margin requires low per unit costs
    - Must be aware of prices negotiated with third party payers

CAH Economics – Questions and Answers (part 21)

- *How should we look at non-hospital businesses run by our CAH? (1)*
  - Overview
    - Sample of North Dakota CAHs

North Dakota CAHs
Non-CAH Entities

Hospital	Operating Margin %	Nursing Home	Assisted Living	Basic Care	Senior Housing/ Apartments	Clinic/ RHC	Ambulance	Wellness	Home Health	Hospice
A	2.04%									
D	1.77%	X	X			X				
B	1.38%				X					
H	0.29%				X				X	X
F	-1.80%	X		X	X	X		X	X	X
J	-2.20%					X				
E	-4.42%	X	X	X	X	X		X		
G	-5.41%	X			X		X			
I	-6.57%	X	X	X	X	X	X		X	
C	-8.42%				X	X	X		X	X

    - Direct correlation between number of Non-CAH businesses and system-wide operating losses
      - However, in most rural communities, CAHs are the center of healthcare activity and core mission supports these services
        - Just recognize it!

Non-Hospital Businesses

- *How should we look at non-hospital businesses run by our CAH? (2)*
  - Example 1 – Home Health Agency

FY 2021 Home Health Profitabilty Analysis

	Visits	Net Rate	Net Revenue
Revenue:			
Other (estimated at 80% of Medicare)	1,096	166.56	182,553
Medicare	2,002	208.20	$ 416,823
Total	3,098		$ 599,376
Operating Expenses:	**A**		**B**
Direct Expenses (2021 ICR - WS A):			
Salary expense	$ 320,001		$ 320,001
Other	$ 224,804		$ 224,804
Total Direct Expense	$ 544,805		$ 544,805
Allocated Expenses (ICR Stepdown - WS B)			
Capital Costs	$ 2,203	90%	$ 1,983
Cap Movable Equipment	$ 5,001	90%	$ 4,501
Admin and General	$ 111,997	20%	$ 22,399
Employee Benefits	$ 95,541	90%	$ 85,987
Operation of Plant	$ 10,064	50%	$ 5,032
Cafeteria	$ 5,939	50%	$ 2,970
Nursing Admin	$ 50,305	20%	$ 10,061
Housekeeping	$ 6,508	50%	$ 3,254
Total Home Home Allocated Expense	$ 287,558		$ 136,186
Total Nursing Home expenses	$ 832,363		$ 680,991
Home Health Direct Gain (Loss)	$ (232,987)		$ (81,616)
Overhead expenses allocated away from Hospital (a) - (b)			(151,372)
Estimated CAH Cost Based Payer Mix			35%
Cost Based Payer Revenue on Allocated Costs			(52,980)
Net Gain (Loss)			$ (134,596)

CAH Economics – Questions and Answers (part 22)

- *How should we look at non-hospital businesses run by our CAH? (4)*
  - Observations
    - Important to understand the pros and cons of non-reimbursable cost centers (e.g., home health agencies, assisted living, nursing homes, etc.)
      - Pros – Mission objectives, potential direct gains/margin, and dilution of overhead costs to enable hospital profit on commercial business
      - Cons – Potential direct losses and decreased Medicare cost-based reimbursement from fixed costs allocated out of hospital
  - Opportunities
    - Understand true loss of non-hospital business performing analysis similar to prior pages
      - Must consider negative Medicare impact from allocating overhead costs to a non-hospital entity
        - Non Hospital Businesses will draw overhead costs that would have been reimbursed on a cost basis
    - If net losses, consider spinning business out of hospital
      - If losses acknowledged as part of mission, maintain business
      - May be opportunity to give back to County
  - Answer – Carefully!

CAH Economics – Questions and Answers (part 23)

- Quotes from Around the Horn (1)
  - Vermont CAH Administrator
    - *"Our cost based payer mix is nearly 60%. If we increase our expenses, we generate more revenue and margin"*
  - MS Delta CAH Administrator
    - *"Why do we want to cut expenses if we lose revenue?"*
  - New York CAH Administrator
    - *"My Medicare per diems are $1,500. Our number one strategic initiative is to grow acute census from 3 to 4 and we will be profitable."*
      - Important Fact: Medicare Acute payer mix = 92%
  - Illinois CAH Administrator
    - *"It takes four outpatient encounters to equal one inpatient day. Our efforts are focused on inpatient services."*
  - New York CAH Administrator
    - *"Because of the negative impact on CAH reimbursement, we can no longer offer Hospice services to our community."*

CAH Economics – Questions and Answers (part 24)

- Quotes from Around the Horn (2)
  - Alaska CAH Administrator
    - *"How can we grow outpatient radiology services when these services are costing us $800 per study?"*
  - MS Delta CAH Administrator
    - *"My Medicare per diems are $1,400. My commercial per diems are $950. We are going to exit commercial to focus on Medicare."*
  - New York CAH Administrator
    - *"Our lab and X-ray departments were losing money so we outsourced them."*
  - MS Delta CAH Administrator
    - *"Our consultants keep telling us to discontinue a relationship we have with a rehab unit which we rent space to. It generates a significant amount of cash flow during the year. Should we?"*

SUMMARY

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Summary

- Key takeaways
  - Volume is the key driver of “unit costs”, not expenses
    - Important to grow both Medicare and non-Medicare volume to reduce unit costs so that non-Medicare business can be profitable
  - Commercial business is important source of profits and profits generated on this business must more than compensate for non-allowable “costs”
  - Cost reports are an important source of information but can be dangerous when using fully allocated costs for operating decisions
  - Interim reimbursement is not final reimbursement
    - Understand the difference from both a cash flow perspective and from an operational decision-making perspective

Summary (continued)

- Key takeaways (continued)
  - Important to understand the pros and cons of non-reimbursable cost centers (e.g., day cares, nursing homes, etc.)
    - Pros – Mission objectives, potential direct gains/margin, and dilution of overhead costs to enable hospital profit on commercial business
    - Cons – Potential direct losses and decreased Medicare cost-based reimbursement from fixed costs allocated out of hospital
  - Understand impact of third-party contracts on CAH profitability
    - Does margin generated more than offset variable expenses and dilution of Medicare revenue
  - The "tail" of reimbursement must not wag the "dog" of operations
    - Reimbursement should be an input to decision making
      - Better stated by Wisconsin CFO
        - *"Quality and service drive growth and finances – patient safety, quality improvement, customer service"*

Thanks for listening!

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Post-Polling Questions

I am ____ in my understanding of critical access hospital (CAH) inpatient and outpatient volume and impacts on profitability.

I am ____ in my understanding of how to evaluate profitability related to non-cost-based services.

I am ____ that I will apply the knowledge gained from this educational training to improve my organization's financial performance.

Contact Information

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