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Volume Policy Workgroup Meeting 1

Marketshift Industry Concerns & Analysis

August 2025

Technical Workgroup Agenda

- Marketshift Revisions
  - Variable Cost Factor (Meeting 1)
  - Geographies (Meeting 2)
  - Service Line Exclusions (Meeting 2)
- Criteria for Service Line Exclusions
  - Oncology Drugs (Meeting 2)
  - Complexity and Innovation (Meeting 2)
  - Payer Initiated Shifts and Inter-system Realignments (Meeting 2)
  - Material Provider Initiated Shifts (Meeting 2)
  - Latent Demand (Meeting 2 & Potential Additional Meetings)
- Volume Scorecard
  - CY 2024 Update (Meeting 2)
  - Variances Identified in Contractor Review (Meeting 2)
- Demographic Adjustment Revisions
  - Age Adjusted Growth vs More Comprehensive Risk Adjusted Growth (Meeting 3)
  - Variable Cost Factor (Meeting 3)
  - Service Line Exclusions (Meeting 3)

Market Shift Policy Overview

- The specific purpose of the Market Shift Adjustment (MSA) is to provide a criteria for increasing or decreasing the approved regulated revenue of Maryland hospitals operating under GBR rate arrangements.
- The policy seeks to ensure that revenue is appropriately re-allocated when shifts in patient volumes occur between hospitals, independent of general volume increases in the market.
- Market Shift Adjustments are capped at the lesser of the growth for volume gains or the decline for volume losses. This approach removes incentives for driving up volume in the service area.
- Hospital service line average charge per ECMAD is used to calculate the cost associated with market shifts.

Key Industry Concerns with Market Shift Policy

Variable Cost Factor

Stakeholders have voiced concern that the Market Shift Policy sometimes does not provide **consistent and adequate funding**, especially with respect to the 50% variable cost factor. Hospitals with significant volume growth might not receive sufficient funding to cover service costs, while those with volume declines may retain more revenue than necessary, leading to inefficiencies.

Focus of this deck.

Definitions of Geographies

Stakeholders believe that the granular market shift calculations that evaluate small geographic regions or small service lines may result in **statistical instability** and **random variations**. These small market assessments might not accurately reflect true utilization patterns, causing unrepresentative shifts in funding.

Additional analysis is ongoing.

Executive Summary of Findings

- With revised evaluations, at the statewide level, regulated hospital operating costs were found to be approximately **57% variable with volumes**, which is slightly higher than the 50% VCF historically used in the Market Shift Policy.

- Analysis indicates that **costs in surgical service lines are more variable** with volumes on average than costs in medical service lines.
  - Surgical Service Line VCF was found to be between 56-64%.
  - Medical Service Line VCF was found to be between 52-56%.

- These results were found to be directionally consistent when replicated across multiple years of data.

Note (1): Categorical Exclusions and Innovation Flag cases are removed and CDS is excluded for Oncology Infusion Drugs (OP service line)

MHA Proposed VCF Calculation

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MHA presented findings from validating VCF that varied from Staff's typical analysis in several ways

	HSCRC	MHA
Service Setting for calculation	Calculated separately for IP and OP	Calculated separately for IP and OP
Direct Cost Calculation	**Applies Direct cost to charge ratio to case-mix charges**	**Uses Direct cost from M-schedule from cost report**
Charge Bucket	HSCRC classifies rate centers into different charge buckets for calculation	Directly uses rate centers
Direct Variable Cost Percent	**HSCRC has assumed the direct variable cost percent by charge buckets**	**Assumed 100% of the direct costs as variable**
Indirect Variable Cost Percent	**(1 – Statewide direct costs as % of Adj charges) * 10%**	**Not considered**
Variable Cost Factor	Indirect variable cost percent + Direct variable cost as a % of adj charges	Op1 – Direct expense/Level IV Exp Op2 – (Direct exp + Pat care OD – plant) / Level IV Exp Op3 – Level I Exp/ Level IV Exp

Staff believes that Option 1 is the most reasonable of the three potential approaches from MHA

MHA Option	High-Level Description	Staff Comments
1	▪ Direct Expense / Level IV Expense	▪ Staff believes that this is the **most reasonable** approach. ▪ Level IV Expense includes **mark-up impact**. Instead, total Level III Expense should be the denominator.
2	▪ (Direct + Patient Care OH – Plant) / Level IV Expense	▪ Staff believes that **indirect expenses** such as patient care overhead should be handled separately from direct costs when calculating VCF.
3	▪ Level I Expense / Level IV Expense	▪ Total Level I Expense includes significant patient care and non-patient care overhead that is **likely highly fixed**.

Hybrid VCF Analysis

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In response to MHA input, Staff developed a hybrid approach that combines components of HSCRC and MHA analysis

	HSCRC	MHA	Hybrid
Service Setting for calculation	Calculated separately for IP and OP	Calculated separately for IP and OP	**IP & OP are combined since costs are combined in Annual Filings**
Direct Cost Calculation	Applies Direct cost to charge ratio to case-mix charges	Uses Direct cost from M-schedule from cost report	**Uses direct cost from M-schedule from cost report**
Charge Bucket	HSCRC classifies rate centers into different charge buckets for calculation	Directly uses rate centers	**Uses more granular charge buckets to balance low volumes with unique properties of certain services**
Direct Variable Cost Percent	Direct cost % * Direct cost variability by charge buckets	Assumed 100% of the direct costs as variable	**Direct cost variability (Calculated at the charge bucket level by way of a linear regression model using volumes and inflation adjusted costs from the Annual Filing cost reports) * Direct costs**
Indirect Variable Cost Percent	(1 – Statewide direct costs as % of Adj charges) * 10%	Not considered	**Indirect cost % * 10%**
Variable Cost Factor	Indirect variable cost percent + Direct variable cost as a % of adj charges	Op1 – Direct expense/Level IV Exp Op2 – (Direct exp + Pat care OD – plant) / Level IV Exp Op3 – Level I Exp/ Level IV Exp	**Indirect variable cost percent + Direct variable cost** **The final VCF is a weighted average of VCFs calculated across charge buckets**

Charge buckets were defined to group similar services

- Charge buckets were established to group rate centers to eliminate issues with low volumes in certain rate centers.
- Staff believe that it is reasonable to assume the direct cost variability % will not vary significantly across similar services (e.g. direct cost variability should be relatively similar for OR vs. Same Day Surgery).

Emerg

- *Emergency Services*
- *Free Standing Emergency Services*

Observation

- *Observation*

Therapy

- *Physical Therapy*
- *Occupational Therapy*
- *Speech Therapy*
- *Etc.*

OR

- *Operating Room*
- *Same Day Surgery*
- *Anesthesiology*
- *Etc.*

Clinic

- *Clinic Services*
- *Audiology*
- *Oncology Clinic*
- *Etc.*

MSS & CDS

- *Drugs*
- *Med Surg Supplies*

Lab & Tests

- *CAT Scanner*
- *Electrocardiography*
- *Electroencephalography*
- *Nuclear Medicine*
- *Laboratory*
- *Etc.*

Room & Board

- *Medical Surgical Acute*
- *ICU*
- *CCU*
- *Etc.*

Other

- *Hyperbaric Chamber*
- *Leukopheresis*
- *Lithotripsy*
- *Etc.*

Direct cost variability was calculated by charge bucket using historical Annual Filing data

Approach

- Identified Direct Costs and units by rate center from M-Schedule of the Annual Filing.
- Applied inflation from the update factor, adjusting FY17 - FY23 to FY17 dollars.
- Used the HSCRC charge buckets for grouping the rate centers for analysis.
- Performed linear regression separately for each charge bucket at a hospital and rate center level to calculate the expected change in cost due to a 1-unit change in volume.

Assumptions

- Rate centers were grouped into modified charge buckets based on service.
- FMFs and Specialty Hospitals were excluded from the analysis.
- FY24 Update Factor (Inflation) = 3.35%
- FY23 Update Factor (Inflation) = 3.38%
- FY22 Update Factor (Inflation) = 2.57%
- FY20 Update Factor (Inflation) = 4.06%
- FY19 Update Factor (Inflation) = 4.06%
- FY18 Update Factor (Inflation) = 2.68%

Direct Cost Variability by Charge Bucket

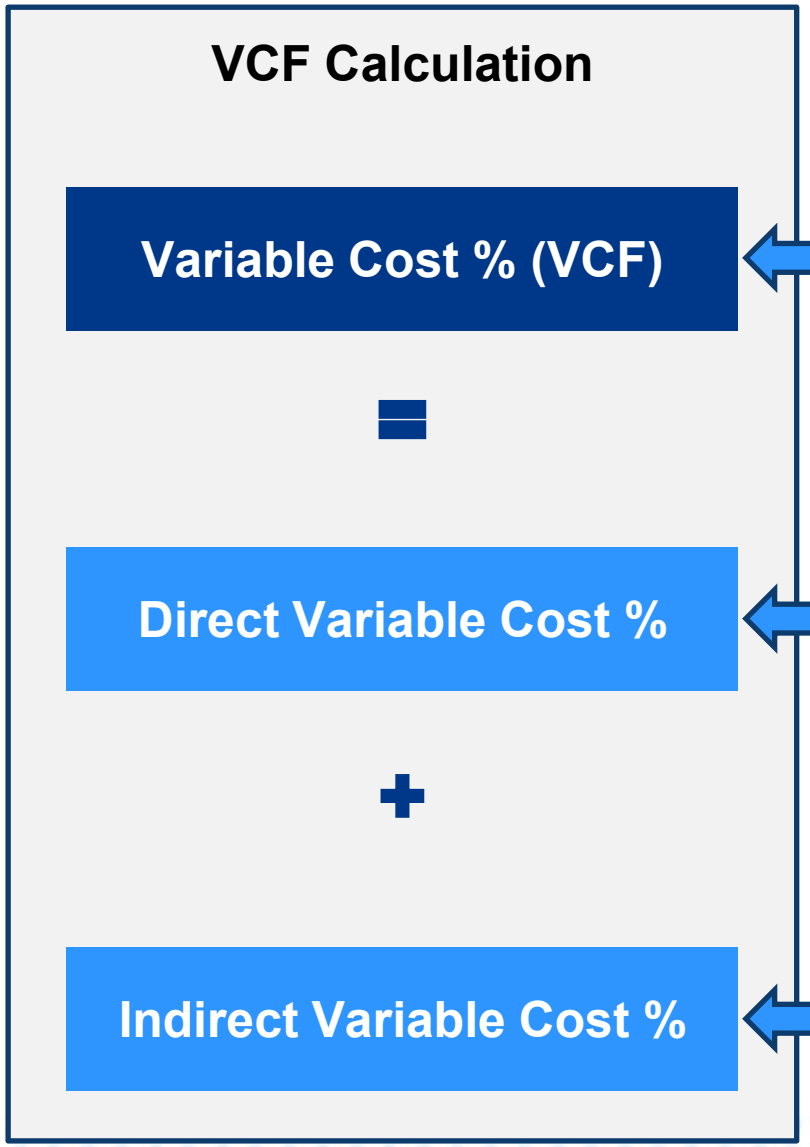
Charge Buckets	Calculated Direct Cost Variability					
	FY24	FY23	FY22	FY19	FY18	FY17
R&B	100%	100%	100%	100%	100%	100%
OR	66%	70%	70%	66%	66%	68%
Lab & Tests	64%	68%	67%	58%	75%	61%
MSS & CDS(1)	100%	100%	100%	100%	100%	100%
Therapy	57%	65%	61%	65%	62%	63%
Emerg	100%	100%	100%	100%	100%	100%
Observation	97%	98%	93%	77%	79%	83%
Clinic	100%	100%	100%	100%	100%	100%
Other(1)	100%	100%	100%	100%	100%	100%

How to Interpret the Table:

- If the costs for 1 unit of OR is $1000, for an increase of 1 unit in OR volume, the costs would increase by $660 since OR direct costs are 66% variable with volume.

Note (1): MSS/CDS and Other are assumed to be 100% variable with volumes. Analysis was not performed to validate this assumption.

VCF accounts for variability of direct and indirect costs

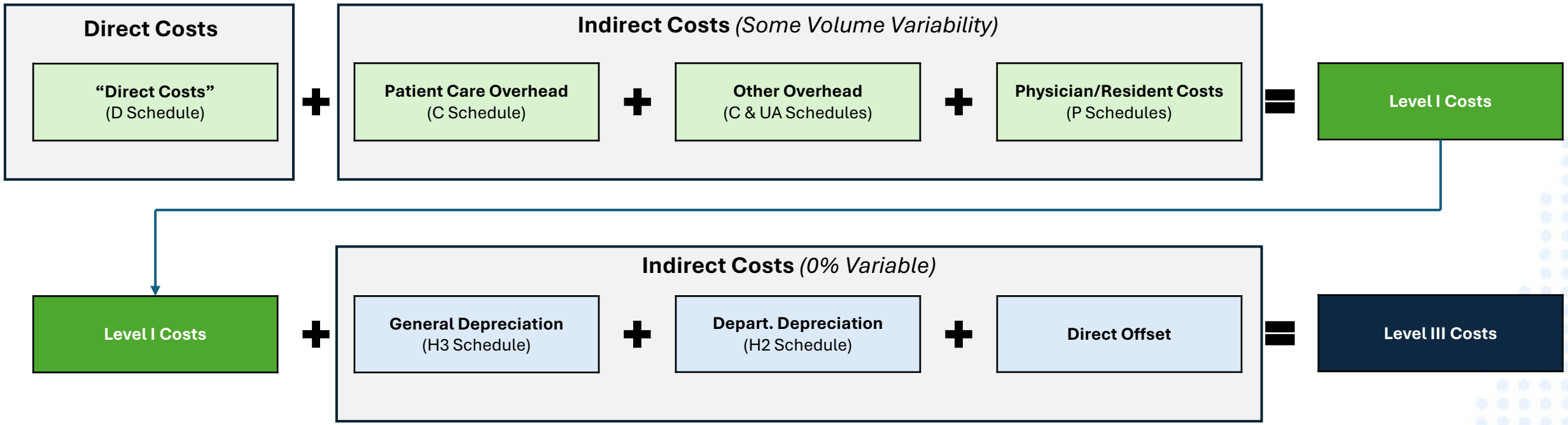


= This is the absolute VCF. The final VCF is a weighted average of the absolute VCF based on expenses for each charge bucket

= (Direct Costs / Level III Costs) * Direct Cost Variability % *(from slide 13)*

= (Indirect Costs / Level III Costs) * Assumed Indirect Cost Variability % (Assumed 10% in base case)

Staff believes a 10% indirect cost variability assumption is reasonable based on the components of indirect costs



FY2024 VCF ranges from 39% to 79% across charge buckets, with an overall average of 57%

Calculation Component		Emerg	Observation	Lab & Tests	MSS & CDS	OR	Other	R&B	Clinic	Therapy	Total
Total Cost (M-Sched Level 3)	A	$ 1,131,999,574	$ 422,338,075	$ 2,454,722,481	$ 4,205,740,888	$ 2,259,425,315	$ 287,983,334	$ 5,659,016,420	$ 570,969,148	$ 554,735,133	**$ 17,546,930,368**
Direct Costs:											
Direct Costs (D_Direct)	B	$ 648,775,164	$ 236,194,068	$ 1,317,868,952	$ 3,218,830,565	$ 1,113,049,368	$ 137,139,572	$ 2,980,604,780	$ 276,303,996	$ 350,281,156	**$ 10,279,047,622**
Direct Cost %	C=B/A	57%	56%	54%	77%	49%	48%	53%	48%	63%	**59%**
Direct Cost Variability	D	100%	88%	65%	100%	68%	100%	100%	100%	62%	**90%**
Direct Variable Cost	E=D*B	$ 648,775,164	$ 207,850,780	$ 856,614,819	$ 3,218,830,565	$ 756,873,571	$ 137,139,572	$ 2,980,604,780	$ 276,303,996	$ 217,174,317	**$ 9,300,167,563**
Direct Variable Cost %	F=E/A	57%	49%	35%	77%	33%	48%	53%	48%	39%	**53%**
Indirect Costs:											
Indirect Costs	G=A-B	$ 483,224,411	$ 186,144,007	$ 1,136,853,529	$ 986,910,323	$ 1,146,375,946	$ 150,843,763	$ 2,678,411,640	$ 294,665,152	$ 204,453,976	**$ 7,267,882,746**
Indirect Cost %	H=G/A	43%	44%	46%	23%	51%	52%	47%	52%	37%	**41%**
Indirect Cost Variability	I	10%	10%	10%	10%	10%	10%	10%	10%	10%	**10%**
Indirect Variable Cost	J=G*I	$ 48,322,441	$ 18,614,401	$ 113,685,353	$ 98,691,032	$ 114,637,595	$ 15,084,376	$ 267,841,164	$ 29,466,515	$ 20,445,398	**$ 726,788,275**
Indirect Variable Cost %	K=J/A	4%	4%	5%	2%	5%	5%	5%	5%	4%	**4%**
Variable Cost Percent	L=K+F	**62%**	**54%**	**40%**	**79%**	**39%**	**53%**	**57%**	**54%**	**43%**	**57%**
Fixed Cost Percent	M=1-L	38%	46%	60%	21%	61%	47%	43%	46%	57%	**43%**

Note (1): Categorical Exclusions and Innovation Flag cases are removed and CDS is excluded for Oncology Infusion Drugs (OP service line)
Note (2): Direct Cost Variability (line D above) is the average of the linear regression outputs from FY2017-FY2024 as shown on slide 13.

A 5% change to the indirect cost variability assumption impacts overall VCF by 2%

	Baseline Assumption	Scenario 1	Scenario 2	Scenario 3
Indirect Variability Assumption	10%	5%	15%	20%
Overall Variable Cost Factor	57%	55%	59%	61%

Key:

Baseline Assumption

VCF by Service Line

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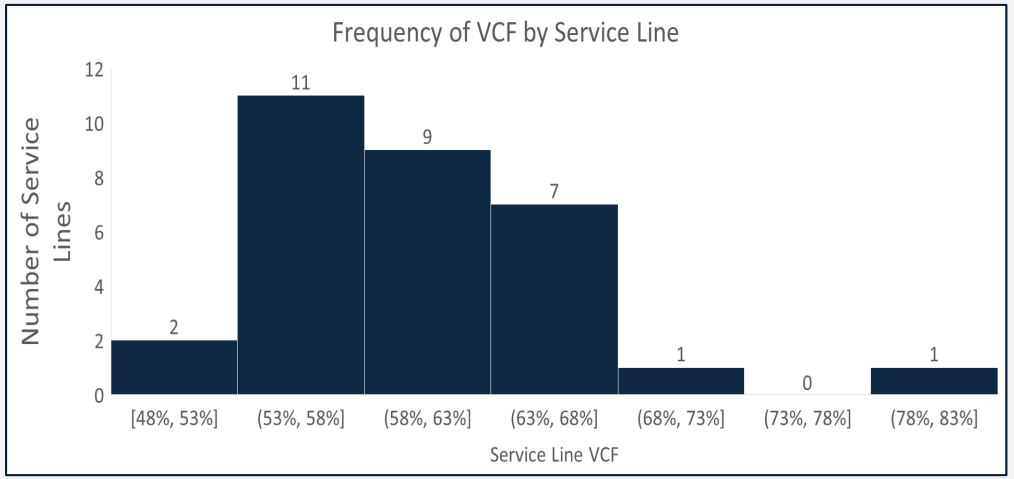
Outpatient service lines have a slightly lower average VCF but vary more widely by service line

Inpatient Service Lines

Overall VCF: **59%**

Minimum: **48%** *(OB/GYN)*

Maximum: **79%** *(Transplant Surgery)*

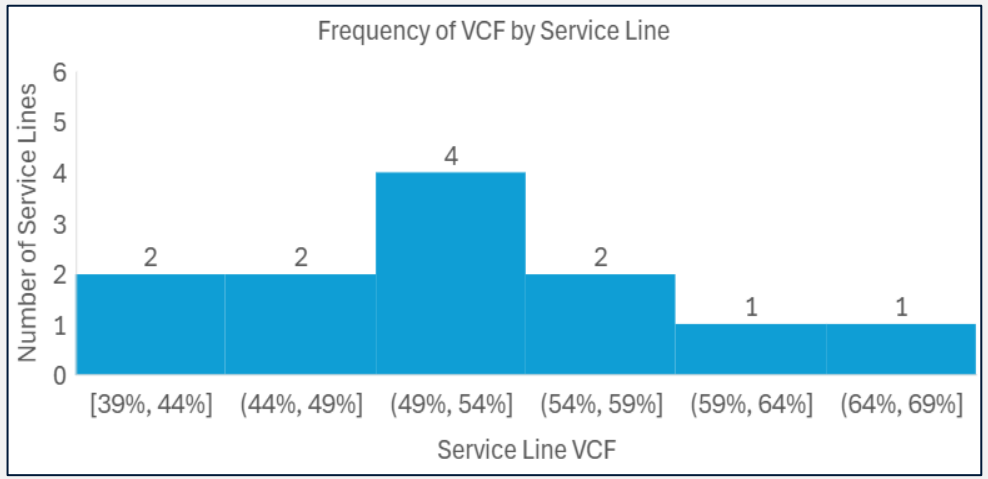


Outpatient Service Lines

Overall VCF: **53%**

Minimum: **39%** *(Radiology)*

Maximum: **65%** *(Cardiovascular)*



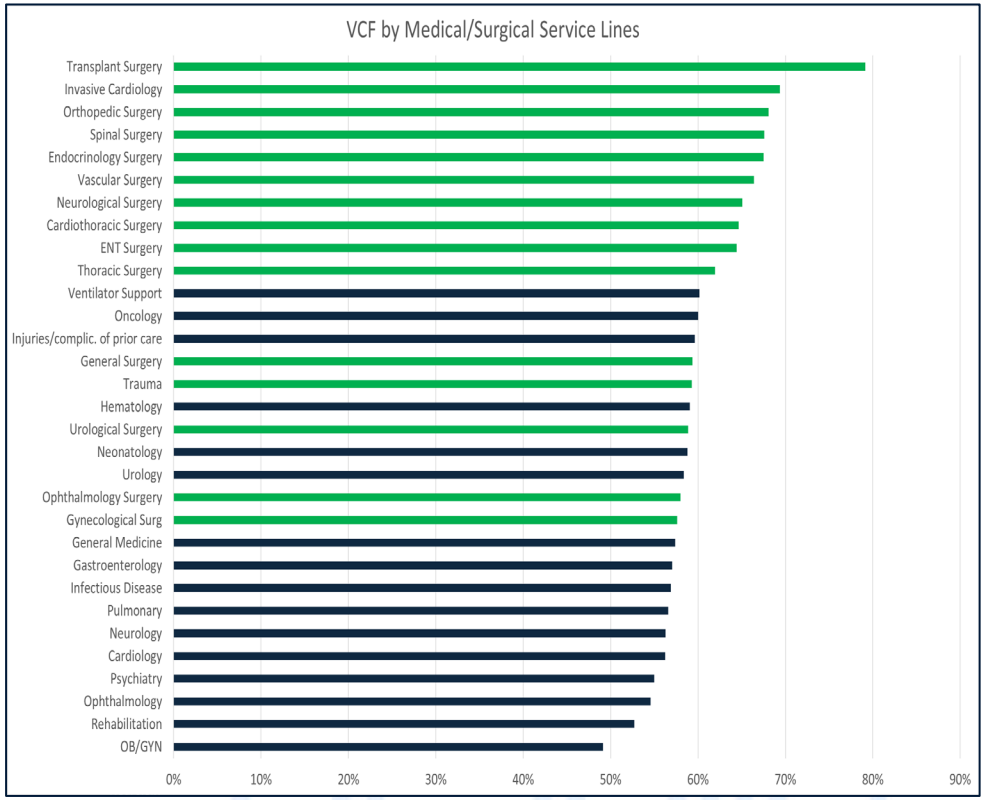
Note (1): Categorical Exclusions and Innovation Flag are removed and CDS is excluded for Oncology Infusion Drugs (OP)
Note (2): Unassigned, invalid, ungroupable, and other are excluded.

Surgical service lines have a slightly higher VCF than medical service lines

Inpatient Service Lines

Medical SL Average: **56%**

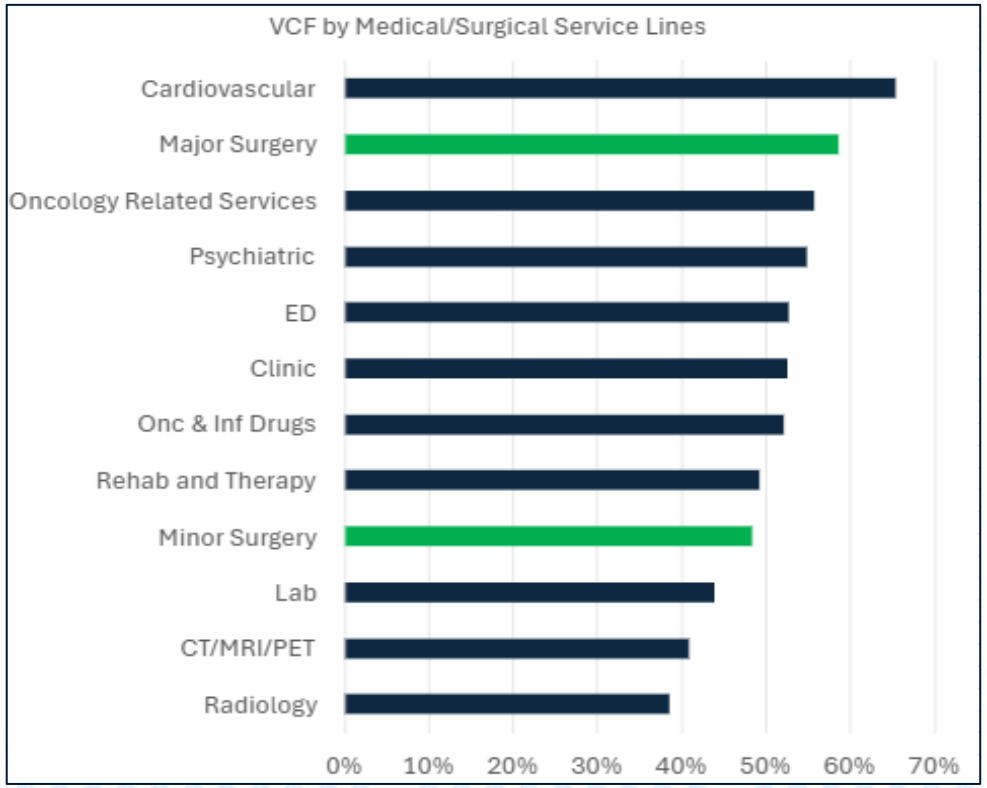
Surgical SL Average: **64%**



Outpatient Service Lines

Medical SL Average: **52%**

Surgical SL Average: **56%**



Key:

Medical SL | Surgical SL

Note (1): Categorical Exclusions and Innovation Flag are removed and CDS is excluded for Oncology Infusion Drugs (OP)

Note (2): Unassigned, invalid, ungroupable, and other are excluded.

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Methodology Comparison

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The overall Inpatient VCF and Medical/Surgical VCF remained relatively consistent across different methodologies/time periods

			Hybrid Approach with FY24 Case-mix Data		
Data Used →	**Original HSCRC Analysis – FY23**	**Original MHA Analysis – FY23**	**Scenario 1: Excluding Categorical Exc. & Innovation; Excluding CDS from Oncology Inf Drugs SL in OP only**	**Scenario 2: Exclude all CDS**	**Scenario 3: Include all CDS**
Overall Statewide VCF	51%	56% to 60%	57%	56%	58%
Medical VCF (IP)	N/A	53% to 57%	56%	55%	56%
Surgical VCF (IP)	N/A	61% to 64%	64%	64%	64%
Medical VCF (OP)			52%	51%	55%
Surgical VCF (OP)			56%	56%	56%

Note(1) : Unassigned, Invalid and Ungroupable service lines have been excluded from the analysis
Note(2) : These trends are calculated at statewide level but might differ at hospital level

Potential Concerns with Hybrid Approach

1. Reliability and consistency of the data reported in the **Annual Filings**.

2. Current Market Shift Policy with 50% VCF may lead to a **self-fulfilling prophecy** in the data – if hospitals know they will keep 50% of the revenue then they are less incentivized to remove costs as volumes decline.

3. Direct cost variability may be different in **volume growth situations vs. declining volumes**.

Policy Considerations

- Moving forward utilize surgical and medical variable cost factors identified in staff analyses in Marketshift policy
  - Should they be service line specific or can averages be used, e.g., IP Medical, IP surgical, OP Medical, OP surgical?
  - How often should these analyses be replicated to review appropriateness of variable cost factors?
- Apply same variable cost factor from Marketshift policy across all volume policies, including deregulation, out-of-state, repatriation, and potentially Demographic Adjustment
- Utilize new variable cost factors in funding efficacy assessments, i.e., the Volume Scorecard

Appendix

Excluding CDS, FY2024 weighted average VCF is 56%

Calculation Component		Emerg	Observation	Lab & Tests	MSS	OR	Other	R&B	Clinic	Therapy	Total
Total Cost (M-Sched Level 3)	A	$ 1,132,470,872	$ 422,424,174	$ 2,489,824,182	$ 2,712,195,167	$ 2,281,488,219	$ 288,299,659	$ 5,701,847,737	$ 571,386,159	$ 559,843,686	**$ 16,159,779,855**
Direct Costs:											
Direct Costs (D_Direct)	B	$ 648,987,489	$ 236,231,175	$ 1,335,829,276	$ 2,311,418,380	$ 1,122,722,043	$ 137,260,694	$ 3,002,324,397	$ 276,518,343	$ 353,783,344	**$ 9,425,075,142**
Direct Cost %	C=B/A	57%	56%	54%	85%	49%	48%	53%	48%	63%	**58%**
Direct Cost Variability	D	100%	88%	65%	100%	68%	100%	100%	100%	62%	
Direct Variable Cost	E=D*B	$ 648,987,489	$ 207,883,434	$ 868,289,029	$ 2,311,418,380	$ 763,450,989	$ 137,260,694	$ 3,002,324,397	$ 276,518,343	$ 219,345,673	**$ 8,435,478,430**
Direct Variable Cost %	F=E/A	57%	49%	35%	85%	33%	48%	53%	48%	39%	**52%**
Indirect Costs:											
Indirect Costs	G=A-B	$ 483,483,383	$ 186,192,999	$ 1,153,994,907	$ 400,776,787	$ 1,158,766,176	$ 151,038,966	$ 2,699,523,340	$ 294,867,815	$ 206,060,342	**$ 6,734,704,713**
Indirect Cost %	H=G/A	43%	44%	46%	15%	51%	52%	47%	52%	37%	**42%**
Indirect Cost Variability	I	10%	10%	10%	10%	10%	10%	10%	10%	10%	**10%**
Indirect Variable Cost	J=G*I	$ 48,348,338	$ 18,619,300	$ 115,399,491	$ 40,077,679	$ 115,876,618	$ 15,103,897	$ 269,952,334	$ 29,486,782	$ 20,606,034	**$ 673,470,471**
Indirect Variable Cost Percent	K=J/A	4%	4%	5%	1%	5%	5%	5%	5%	4%	**4%**
Variable Cost Percent	I=G+H	**62%**	**54%**	**40%**	**87%**	**39%**	**53%**	**57%**	**54%**	**43%**	**56%**
Fixed Cost Percent	J=1-I	38%	46%	60%	13%	61%	47%	43%	46%	57%	**44%**

With CDS included, FY2024 weighted average VCF is 58%

Calculation Component		Emerg	Observation	Lab & Tests	MSS & CDS	OR	Other	R&B	Clinic	Therapy	Total
Total Cost (M-Sched Level 3)	A	$ 1,132,470,872	$ 422,424,174	$ 2,489,824,182	$ 4,821,506,313	$ 2,281,488,219	$ 288,299,659	$ 5,701,847,737	$ 571,386,159	$ 559,843,686	**$ 18,269,091,001**
Direct Cost:											
Direct Costs (D_Direct)	B	$ 648,987,489	$ 236,231,175	$ 1,335,829,276	$ 3,654,046,453	$ 1,122,722,043	$ 137,260,694	$ 3,002,324,397	$ 276,518,343	$ 353,783,344	**$ 10,767,703,214**
Direct Cost %	C=B/A	57%	56%	54%	76%	49%	48%	53%	48%	63%	**59%**
Direct Cost Variability	D	100%	88%	65%	100%	68%	100%	100%	100%	62%	
Direct Variable Cost	E=D*B	$ 648,987,489	$ 207,883,434	$ 868,289,029	$ 3,654,046,453	$ 763,450,989	$ 137,260,694	$ 3,002,324,397	$ 276,518,343	$ 219,345,673	**$ 9,778,106,502**
Direct Variable Cost Percent	F=E/A	57%	49%	35%	76%	33%	48%	53%	48%	39%	**54%**
Indirect Cost:											
Indirect Costs	G=A-B	$ 483,483,383	$ 186,192,999	$ 1,153,994,907	$ 1,167,459,861	$ 1,158,766,176	$ 151,038,966	$ 2,699,523,340	$ 294,867,815	$ 206,060,342	**$ 7,501,387,787**
Indirect Cost %	H=G/A	43%	44%	46%	24%	51%	52%	47%	52%	37%	**41%**
Indirect Cost Variability	I	10%	10%	10%	10%	10%	10%	10%	10%	10%	**10%**
Indirect Variable Cost	J=G*I	$ 48,348,338	$ 18,619,300	$ 115,399,491	$ 116,745,986	$ 115,876,618	$ 15,103,897	$ 269,952,334	$ 29,486,782	$ 20,606,034	**$ 750,138,779**
Indirect Variable Cost Percent	H=E/A	4%	4%	5%	2%	5%	5%	5%	5%	4%	**4%**
Variable Cost Percent	L=K+F	**62%**	**54%**	**40%**	**78%**	**39%**	**53%**	**57%**	**54%**	**43%**	**58%**
Fixed Cost Percent	J=1-I	38%	46%	60%	22%	61%	47%	43%	46%	57%	**42%**

Variable Cost Factor Calculation Methodology

1. Level 3 costs are obtained from M schedule of annual filing cost report for the entire state by charge bucket
2. Direct costs are obtained from M schedule of annual filing cost report (D_Direct)
3. Direct Cost % = Direct Cost from step 2 / Level 3 costs
4. Apply direct cost variability to direct costs to calculate direct variable costs
5. **Direct variable cost % =** Direct variable cost / Level 3 costs
6. Indirect Costs % = (Level 3 Costs – Direct Variable Costs from step 2) / Level 3 costs
7. Apply indirect cost variability (10%) to indirect costs to obtain indirect variable cost
8. **Indirect variable cost % =** Indirect variable Costs / Level 3 costs
9. **Absolute Variable cost % =** Direct variable cost % + Indirect variable cost % (Calculated by charge bucket)
10. **Variable cost % =** Weighted average of absolute variable cost % based on total costs by charge bucket

Note:

- Charge buckets have been defined consistently for the entire data
- VCF is calculated for entire data for the state without breaking the data into IP and OP
- Variability for direct costs has been calculated by hospital by rate center by charge buckets for direct costs and units
- Since we are using costs, we are not applying the 0.75 adjustment factor