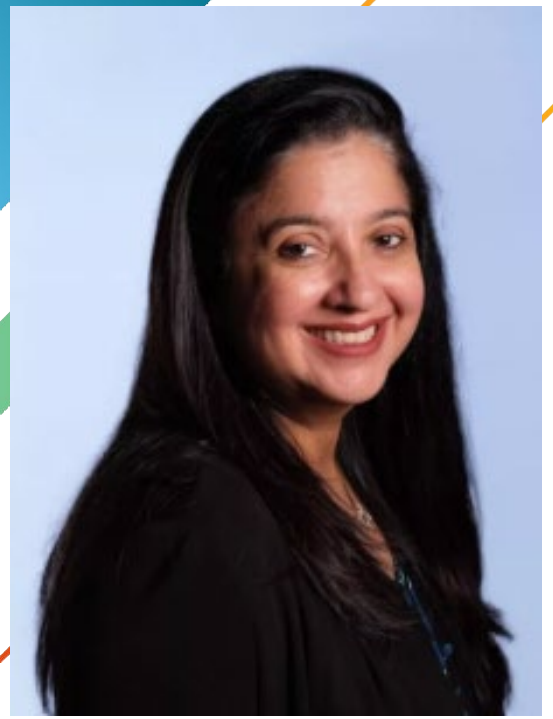
Redefining Value: How Analytics and AI can Transform the Payor–Hospital Relationship in Asia Pacific

Health Catalyst Speakers



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Agenda

- Asia Pacific Healthcare Challenges
- How to Identify Waste with Activity-Based Costing
- Reducing Clinical Variation
- Scaling and Transforming Actionable Insights in Activity-Based Costing with AI
- Q&A

Audience Poll 1

Does your current costing solution have organizational buy-in from clinicians in your hospital?

A **Yes**

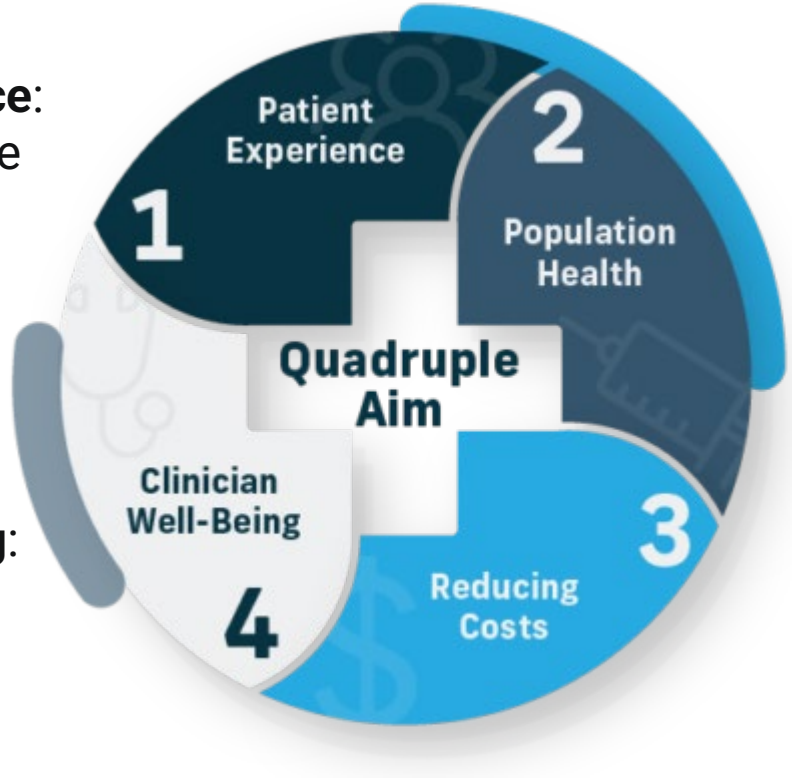
B **No**

C **Uncertain**

Quadruple Aim Focus

Healthcare Framework Focusing on Four Key Goals

Improving the patient experience: Enhancing the overall experience of patients receiving healthcare services.



Improving the health of populations: Promoting the health and well-being of entire communities.

Improving workforce well-being: Recognizing that the well-being of the healthcare providers is essential for achieving positive patient outcomes.

Reducing the total cost of care: Lowering the per capital cost of healthcare services.

Health Care Financial Pressure Is Real in Asia Pacific

Increasing financial scrutiny by payors and move to DRGs

Struggle to identify and prioritize opportunities

Legacy Costing Systems do not uncover the true opportunity

Clinician **distrust** in financial data

Government move to Capitation and Value Based Care Models of Payment

Higher expectations. Bigger gaps in cost visibility.

Why Traditional Tools Fail Service Line Leaders

You get data, but not the tools to act on it.

Averages hide variation.
You can't improve what you can't see at the service-line level.

Physicians don't trust the data.
It's not risk-adjusted or clinically meaningful — so they ignore it.

Finance owns the tools.
But operations and clinicians own the problems.

Spreadsheets aren't strategic.
Legacy systems are too slow and disconnected from clinical work.

Can't link cost to outcomes or care paths.
No insight into what's driving variation — or what to change.

They track costs — not improvement.

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How to Identify Waste with Activity-Based Costing

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Audience Poll 2

What methodology is your current costing system based on?

A. Cost-to-Charge ratios (CCR)

B. Relative Values Units (RVU development for procedures)

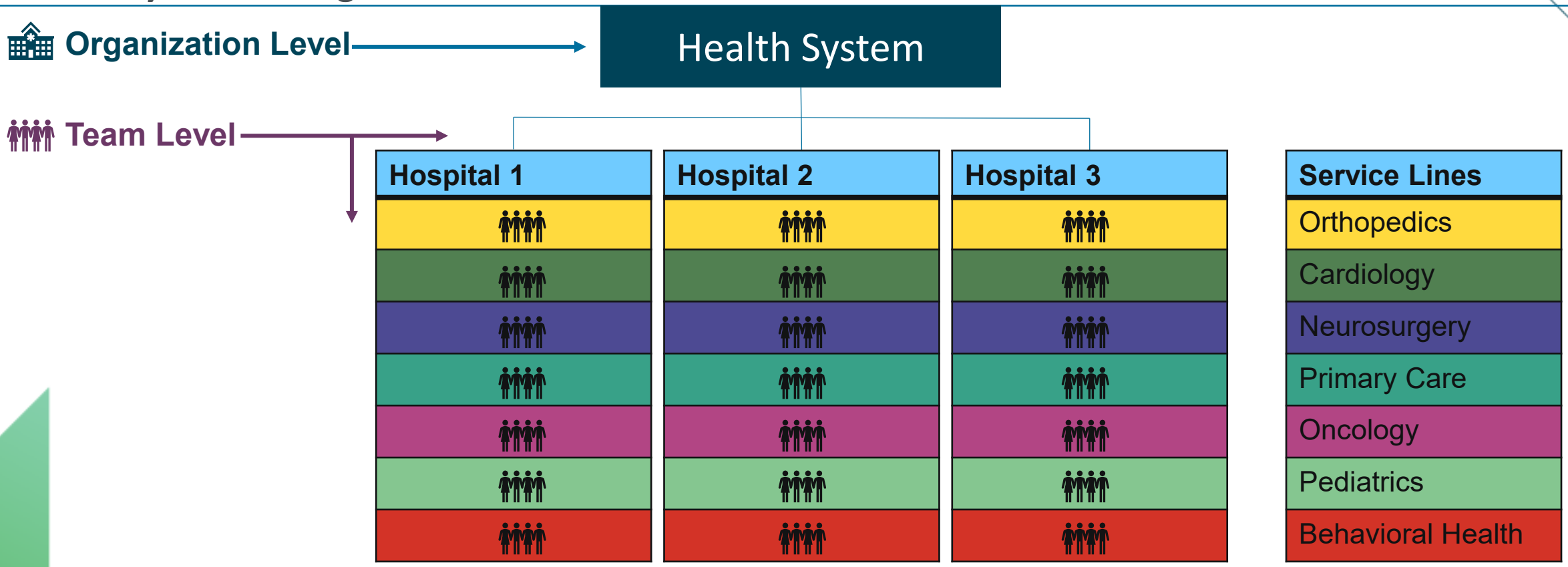
C. Activity-Based Cost (ABC based upon actual patient data at provider level)

D. Hybrid of methods

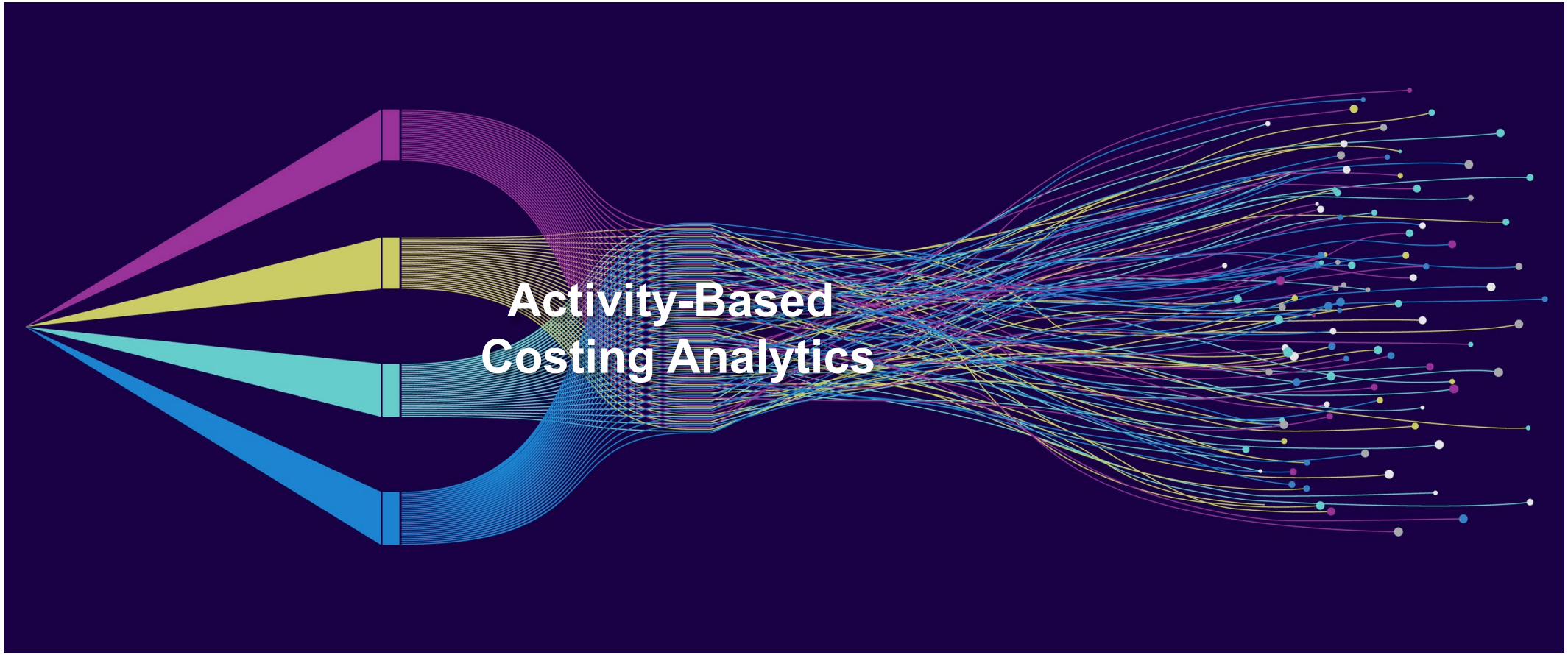
E. N/A - No costing system

Patient and Physician-Level Costing

Catalyst for Change



Activity-Based Costing: A Collision of Financial and Clinical Data

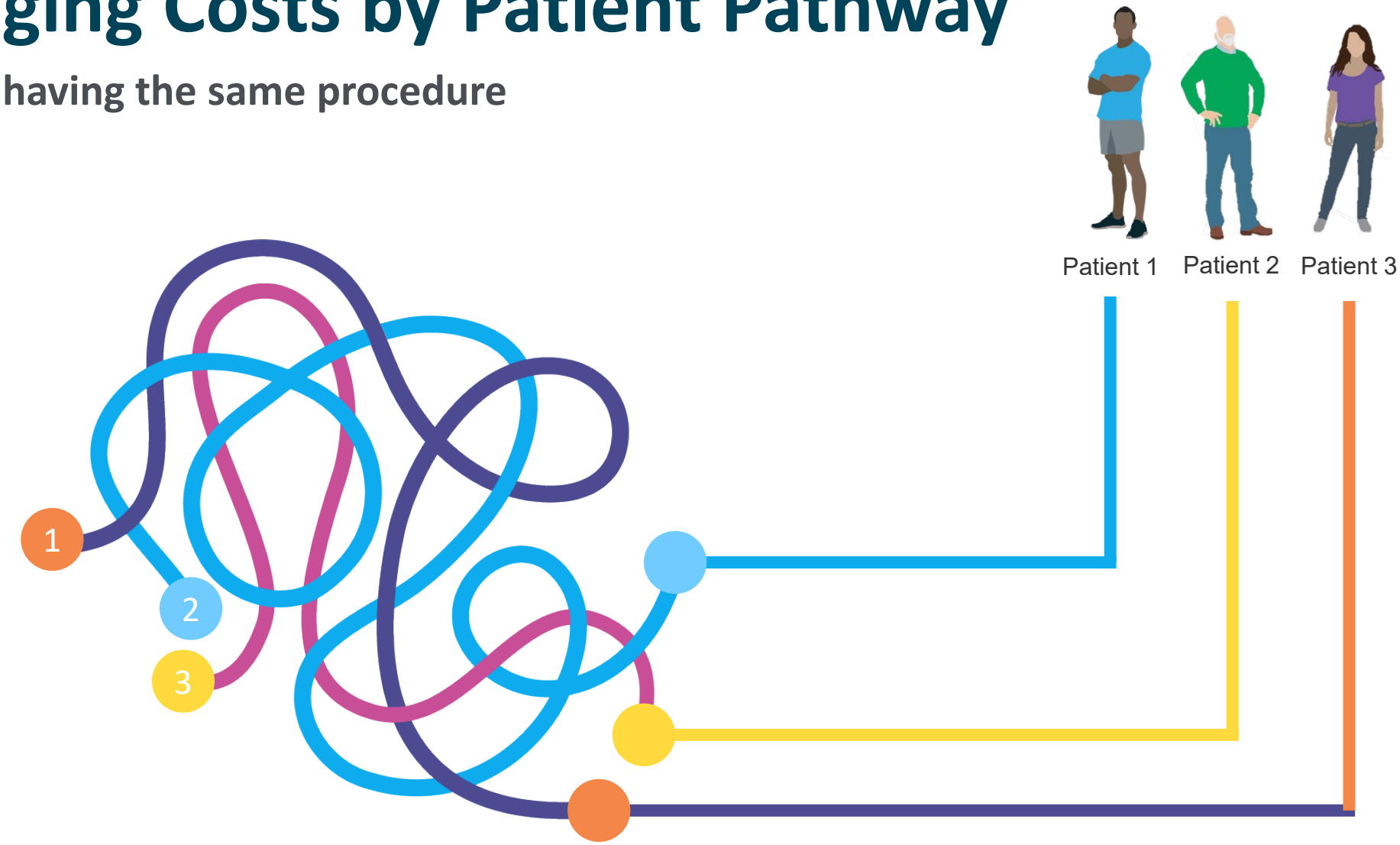


Activity-based costing connects the actions and decisions of clinicians…relating to the consumption of finite resources…to the actual cost of each action and decision.

Actions have (cost) consequences.

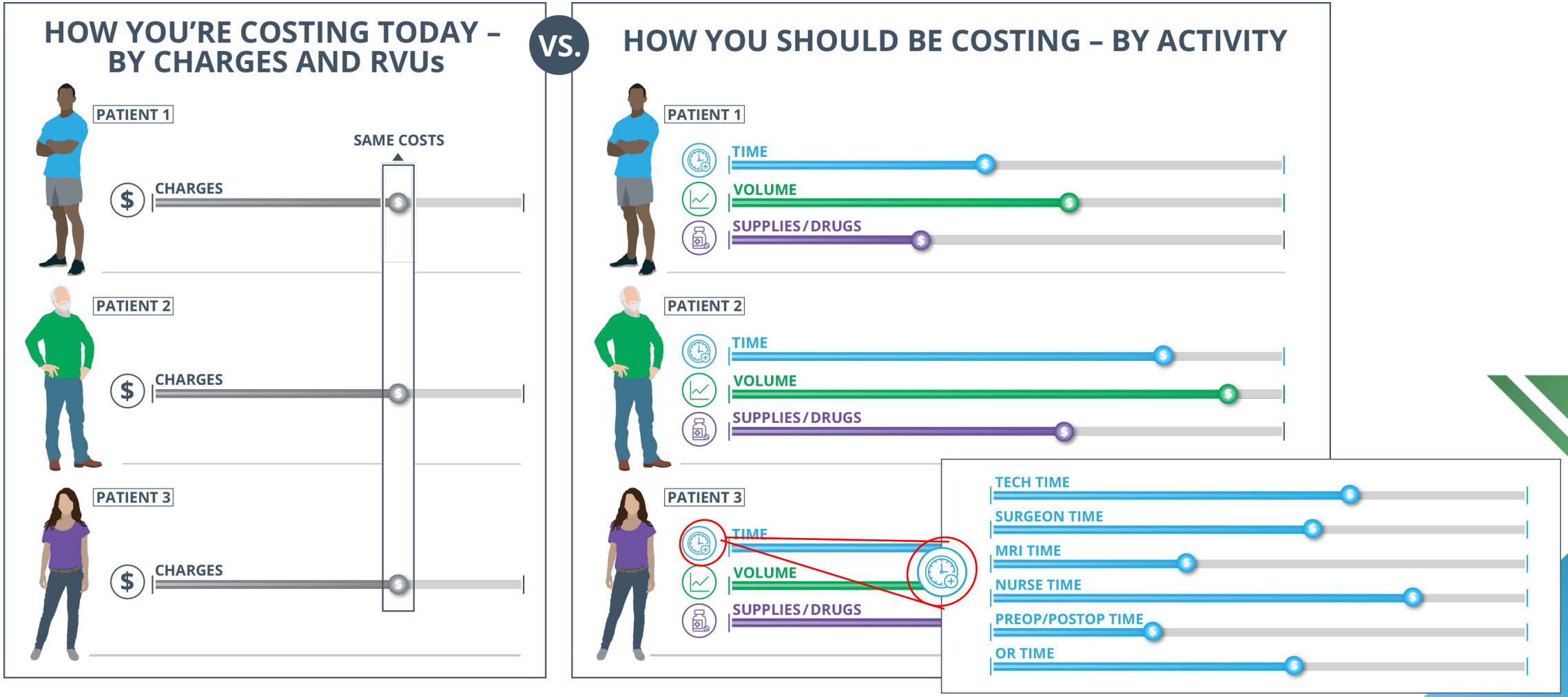
Managing Costs by Patient Pathway

3 patients having the same procedure



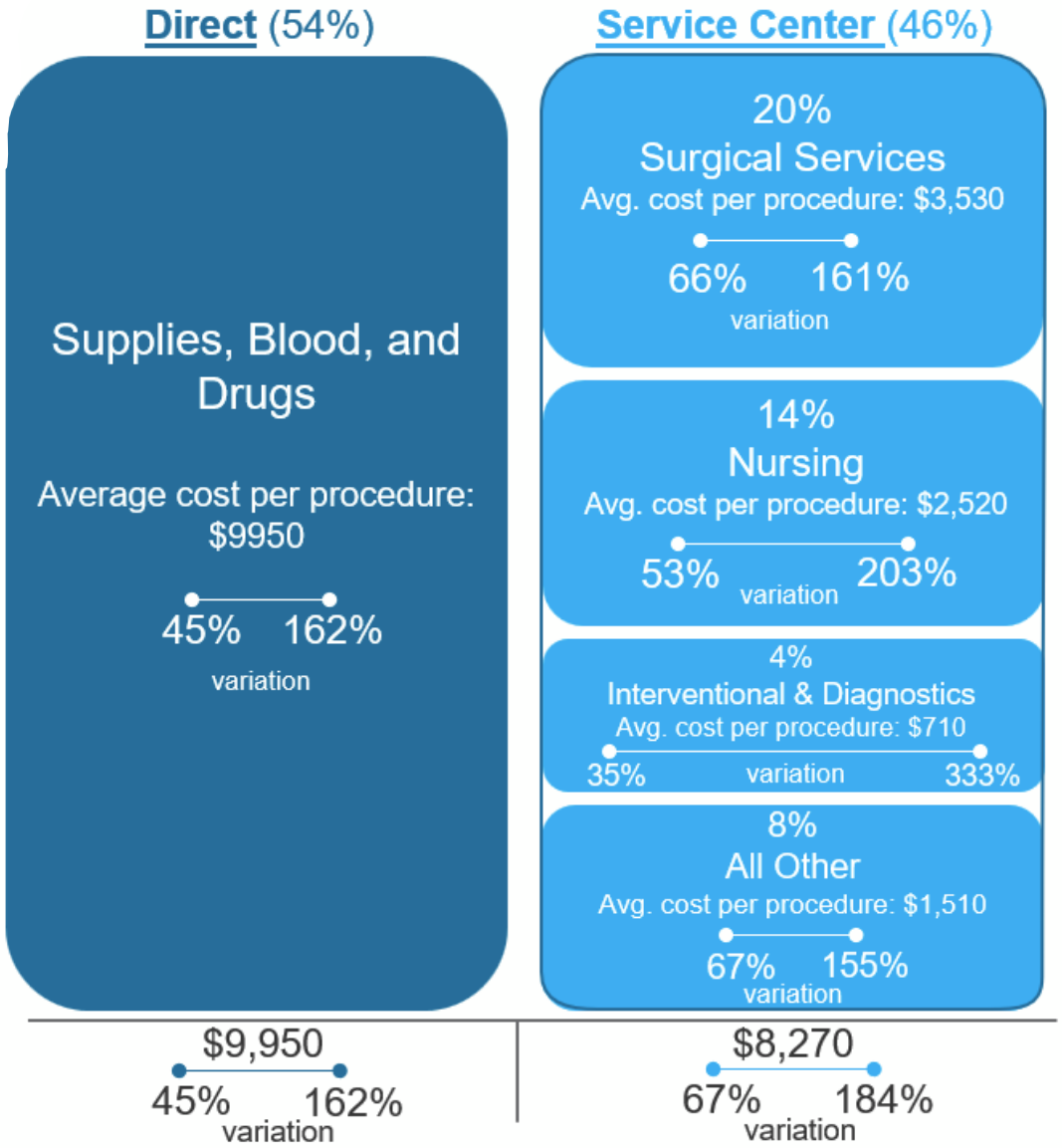
Activity-Based Costing

A paradigm shift affording greater visibility into the true costs of service delivery



Example: Empower Change with Trustworthy Data

Full Consumption Costing and Clinical Variation



= $18,220
55% 155%
variation

Consumption Driver

Surgical Services: OR Case Minutes – Room-in to Room-out time, Staff Time

Nursing: ADT Minutes – Time patient was in bed (NOT # of room charges)

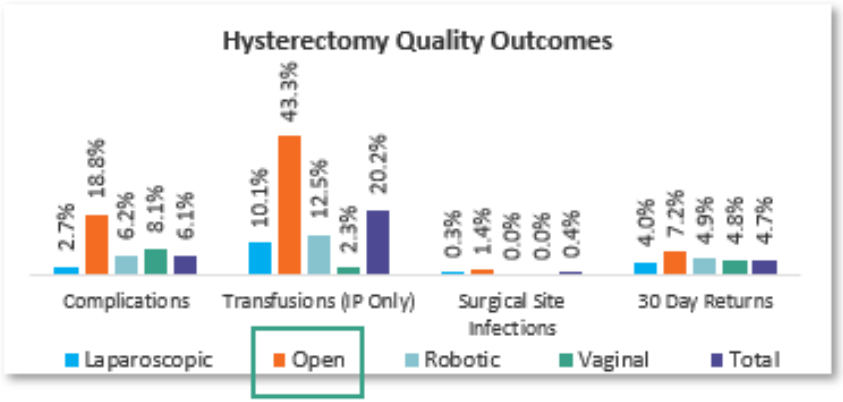
Interventional Diagnostics: Lab count, Imaging time (MRI), Imaging counts (X-ray)

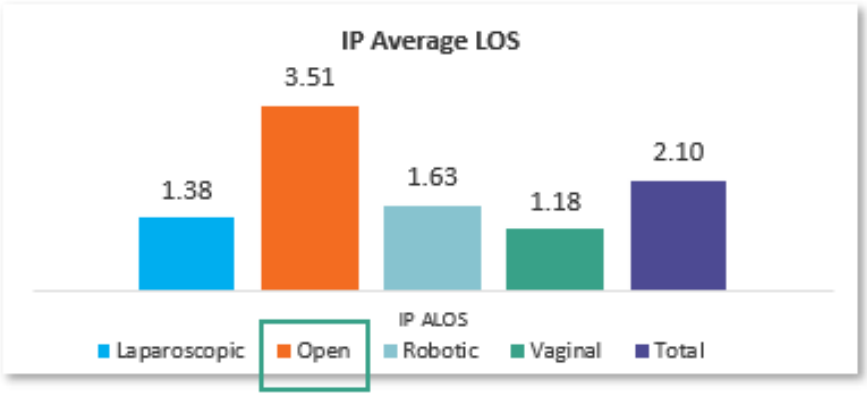
All others: varies by service

Example: Strengthen Strategic Decision Support

Data showing that more expensive procedures to not always yield better outcomes

		Laparoscopic	Vaginal	Robotic	Open	Total Hysterectomies
	Cases	870	250	330	280	1,730
Per Case	Revenue	$ 6,207	$ 10,480	$ 5,152	**$ 7,036**	$ 6,757
	Direct & Indirect Expense	$ 5,397	$ 4,400	$ 6,803	**$ 7,893**	$ 5,925
	Margin	$ 810	$ 6,080	$ (1,651)	$ (857)	$ 832

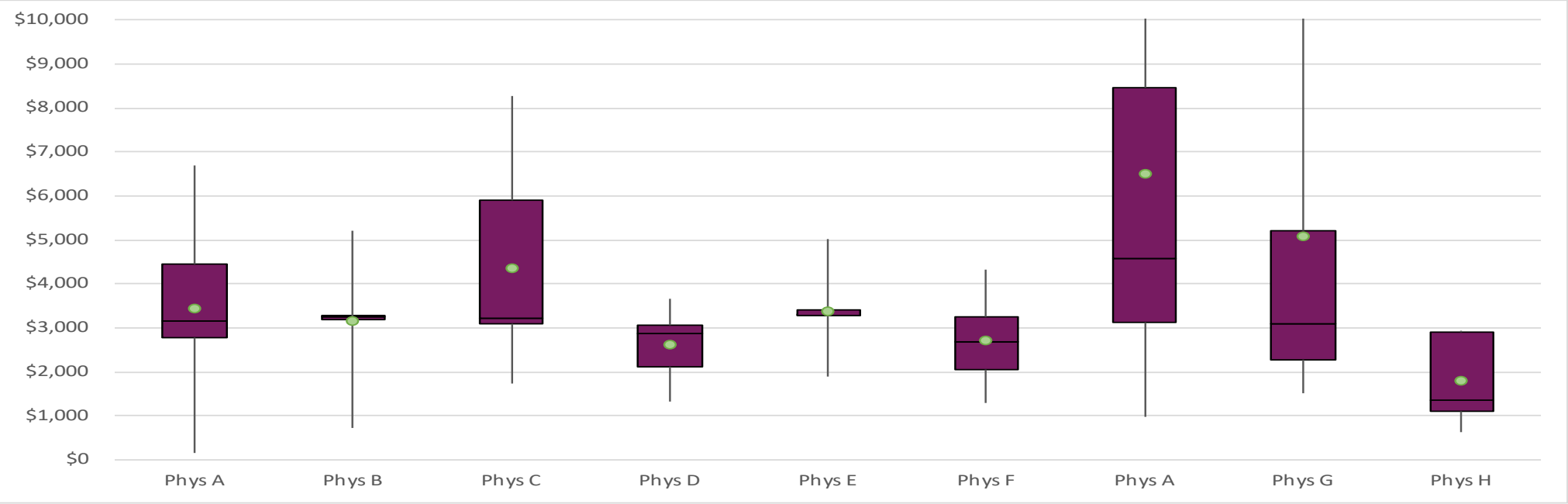




**Sample data for illustrative purposes.*

Supply Variation by Provider – Hip & Femur

Supplies Expense for DRGs 480-482 - Surgeons with at least 5 cases



Average per Case	Phys A	Phys B	Phys C	Phys D	Phys E
Implants	$2,410	$2,038	$3,302	$1,792	$2,808
Blades, Power	250	179	238	184	165
Packs, Interventional	114	88	96	19	118
Medical & Surgical	88	59	59	51	42
Blades, Knives	318	0	-	316	-
Instruments, Surgical	0	-	195	-	201
Other	229	756	437	228	-

Example: Service Line Reporting – Links Service Line with Service Center

Patient Service Line Components

Service Center Costs

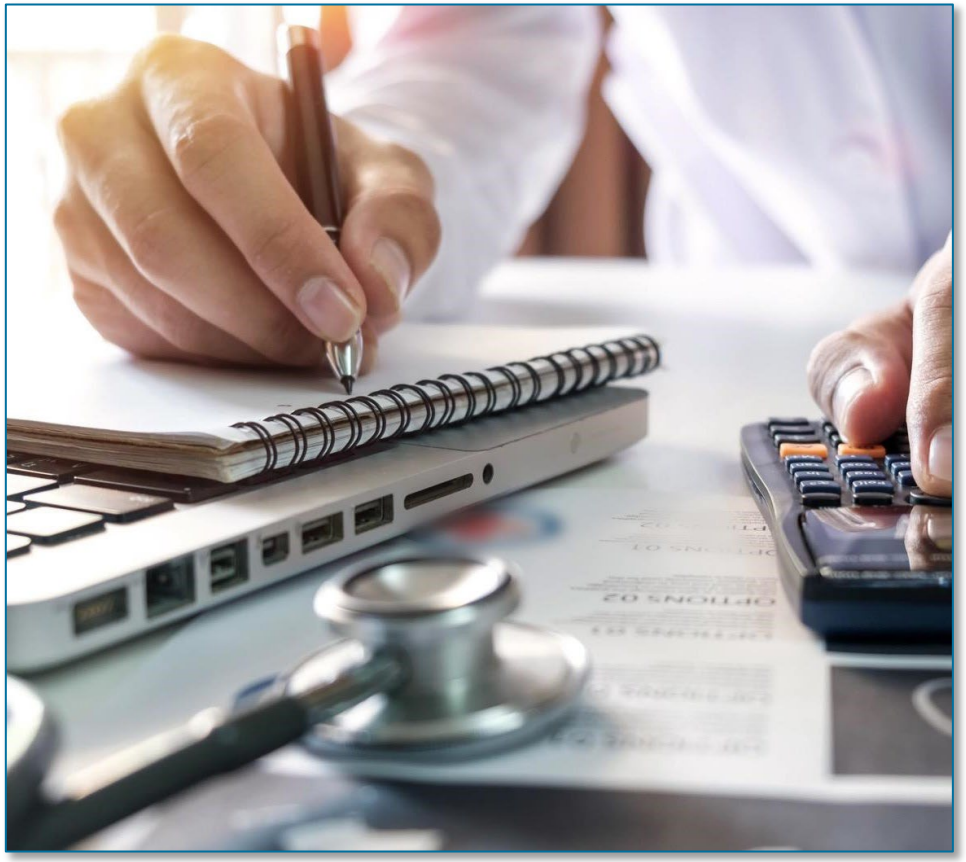
Variable Costing at Service Line Basis

Full Costing at Service Line Basis

($ in millions)	HVI	ORTHOPAEDIC SURGERY	NEUROLOGICAL INSTITUTE	WOMEN'S HEALTH
Patient Revenue	**$227**	**$178**	**$140**	**$134**
Direct Expense[2]	**$57**	**$46**	**$34**	**$10**
Service Expense[3]	**$73**	**$57**	**$39**	**$61**
Imaging	2	4	4	4
Laboratory	3	1	2	6
Other Interventional/Diagnostic	12	0	3	1
Surgical Services	13	25	9	7
Med Surg	15	12	7	21
ICU CCU NICU	10	2	5	10
Rehab/Psych/SNF	0	0	0	1
Other Nursing	2	1	1	1
Other Clinical Services	14	9	8	10
Dietary/Laundry	2	2	1	2
Subtotal Variable Expense	**$130**	**$103**	**$74**	**$71**
Supporting Expense[4]	**$33**	**$26**	**$17**	**$22**
Hospital Service Line Margin	**$64**	**$49**	**$49**	**$41**

*Sample data shown for illustrative purposes only

OTHER STRATEGIC COST MANAGEMENT EXAMPLES



- **Payor Negotiation**
- **Proactive Pricing Strategy**
- **Service Line Management**
  - Vendor consolidation/supply cost "activation" – "credit" to physicians.
  - New integration opportunities.
  - Closure/consolidation → strategic growth.
  - Horizontal cost reduction.
- **Clinical Practice Variation**
- **Risk-Based Reimbursement**
  - Bundles/capitation.
  - Health Plan.
- **Physician/APP Integration**
- **Optimization/Productivity**
  - "Cost per" targets.
  - OR volume/sites/utilization.
  - Exam room volume/sites/utilization.
  - Facility costs/utilization.

Demo

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Activity-Based Costing Data *A Clinical Perspective*

- Reveals true cost drivers
- Identifies waste and variation
- Supports prioritization and strategic decision making
- Enables clinician and service line engagement
- Drives continuous improvement

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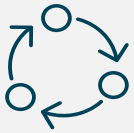
Heart Failure Cardiologists Comparisons

ServiceLineNM	Costed Hospital Account Count	Average LOS	Charges	Payments	Direct Cost	Contribution Margin	Indirect Cost	Cost Amount
Cardiovascular	**679**	**5.62**	**$72,168,038**	**$6,851,304**	**$5,797,772**	**$1,053,532**	**$1,912,970**	**$7,710,743**
Inpatient	**665**	**5.62**	**$71,772,595**	**$6,820,375**	**$5,731,765**	**$1,088,610**	**$1,893,526**	**$7,625,291**
291	**616**	**5.75**	**$68,241,444**	**$6,533,162**	**$5,459,403**	**$1,073,760**	**$1,801,142**	**$7,260,544**
[redacted]	46	5.77	$5,293,515	$444,763	$393,801	$50,962	$126,545	$520,346
[redacted]	46	6.16	$4,759,416	$699,688	$387,323	$312,364	$132,883	$520,206
[redacted]	44	4.20	$3,250,345	$423,445	$243,278	$180,167	$86,228	$329,506
[redacted]	42	7.10	$4,753,098	$457,209	$382,130	$75,079	$131,306	$513,436
[redacted]	35	5.47	$3,304,040	$349,618	$270,316	$79,302	$92,280	$362,596
[redacted]	34	4.30	$2,683,903	$337,426	$239,254	$98,172	$71,336	$310,590
[redacted]	33	3.30	$2,090,549	$304,759	$159,872	$144,888	$53,700	$213,572
[redacted]	32	6.33	$4,363,486	$337,827	$307,450	$30,376	$107,089	$414,540
[redacted]	24	5.56	$2,641,995	$225,885	$221,175	$4,710	$71,840	$293,014
[redacted]	22	4.62	$2,040,575	$210,185	$146,492	$63,692	$49,263	$195,755
[redacted]	21	6.22	$2,721,115	$205,045	$219,131	($14,087)	$67,158	$286,289
[redacted]	18	4.55	$1,655,533	$151,836	$150,437	$1,399	$49,062	$199,499
[redacted]	18	7.22	$2,714,897	$226,470	$236,701	($10,231)	$71,605	$308,306
[redacted]	18	4.08	$1,449,052	$172,954	$123,056	$49,898	$39,721	$162,777
[redacted]	16	5.96	$2,072,226	$162,582	$142,929	$19,653	$49,879	$192,808
[redacted]	16	5.32	$1,791,607	$163,337	$130,942	$32,395	$41,187	$172,129
[redacted]	15	6.03	$2,053,490	$179,911	$150,496	$29,415	$51,476	$201,973
[redacted]	15	7.31	$2,380,400	$163,230	$199,486	($36,256)	$62,929	$262,416
[redacted]	14	4.42	$1,605,391	$149,443	$119,617	$29,826	$35,963	$155,580
[redacted]	14	8.24	$1,926,514	$141,723	$137,301	$4,422	$47,736	$185,038
[redacted]	13	6.28	$2,037,924	$149,438	$157,378	($7,939)	$52,697	$210,075
[redacted]	12	7.35	$2,193,202	$157,768	$163,979	($6,211)	$57,947	$221,926
[redacted]	12	11.22	$2,326,493	$142,569	$191,899	($49,331)	$60,610	$252,510
[redacted]	10	4.70	$860,059	$82,901	$108,860	($25,959)	$32,538	$141,398
[redacted]	10	5.46	$979,849	$104,077	$82,216	$21,861	$28,114	$110,330
[redacted]	9	4.24	$709,177	$98,970	$57,048	$41,922	$19,119	$76,168
[redacted]	7	5.42	$734,040	$79,020	$55,771	$23,248	$19,403	$75,174
[redacted]	5	8.56	$793,207	$50,150	$64,253	($14,103)	$23,050	$87,303
[redacted]	5	6.27	$510,026	$48,500	$38,765	$9,735	$12,893	$51,658
[redacted]	5	9.09	$609,387	$41,728	$64,992	($23,264)	$22,731	$87,724
Total	**741**	**5.64**	**$80,607,161**	**$7,528,477**	**$6,419,110**	**$1,109,366**	**$2,127,276**	**$8,546,386**

A Heart Failure Story

Process Metrics Analysis



Large Health System

- Prolonged LOS and high average variable cost for HF patients revealed in a Power Costing analysis

Data Queries / Clinical Cost Intelligence

- Echocardiogram analysis
- Daily weights
- Guideline directed medical therapy not added during hospitalization (antihypertensives, beta blockers)
- Clinically indicated diuretic dosing

Variation Analysis

Daily Weights

- LOS decreased by X days
- Variable cost decreased by X$

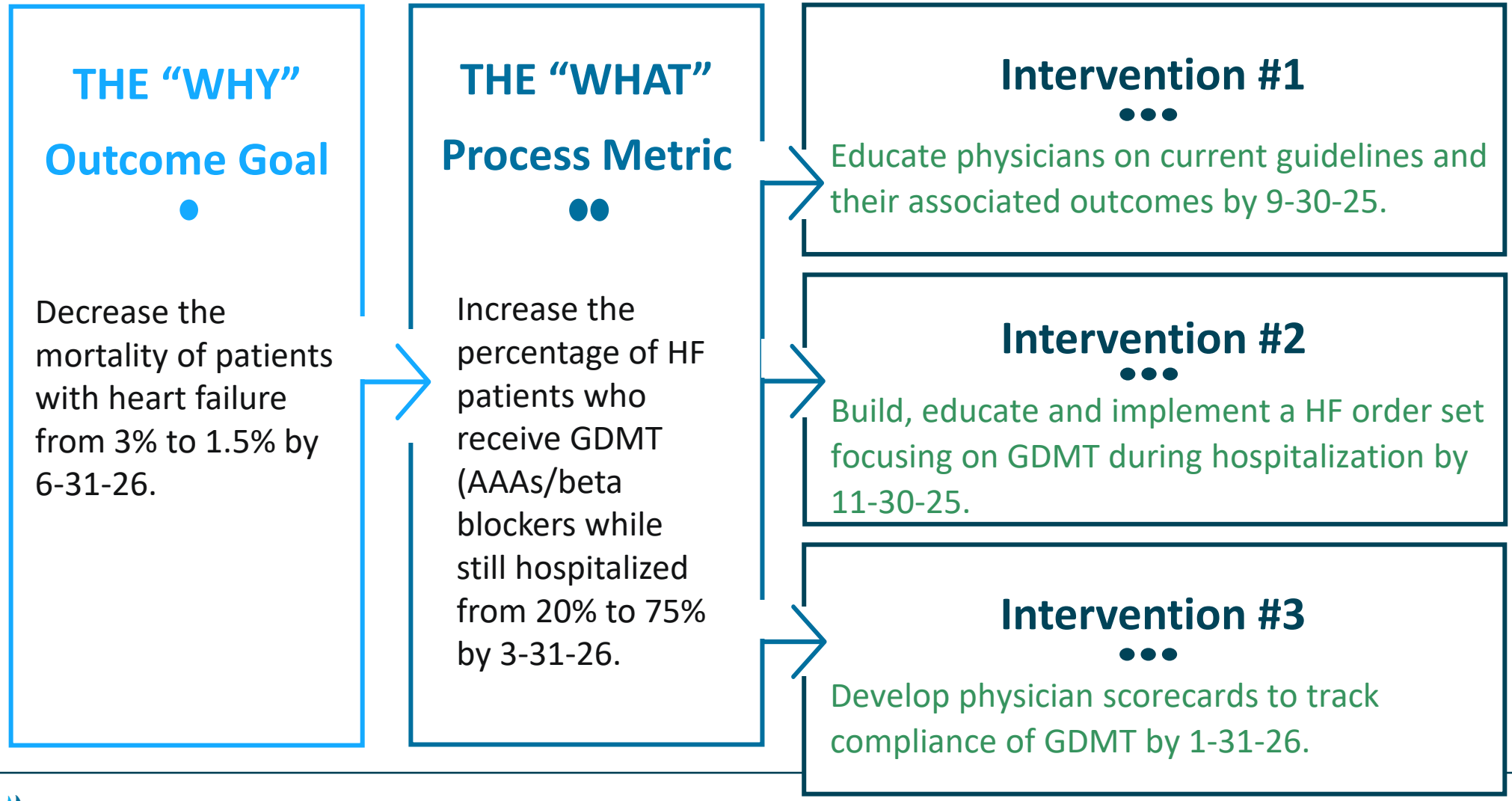
Clinically Indicated Diuretic Dosing

- LOS decreased by X days
- Variable cost decreased by X$

Guideline Directed Medical Therapy

- LOS decreased by X days
- Variable cost decreased by X$

Relation of Goals, Metrics, and Interventions



Scaling and Transforming Actionable Insights in Activity-Based Costing with AI

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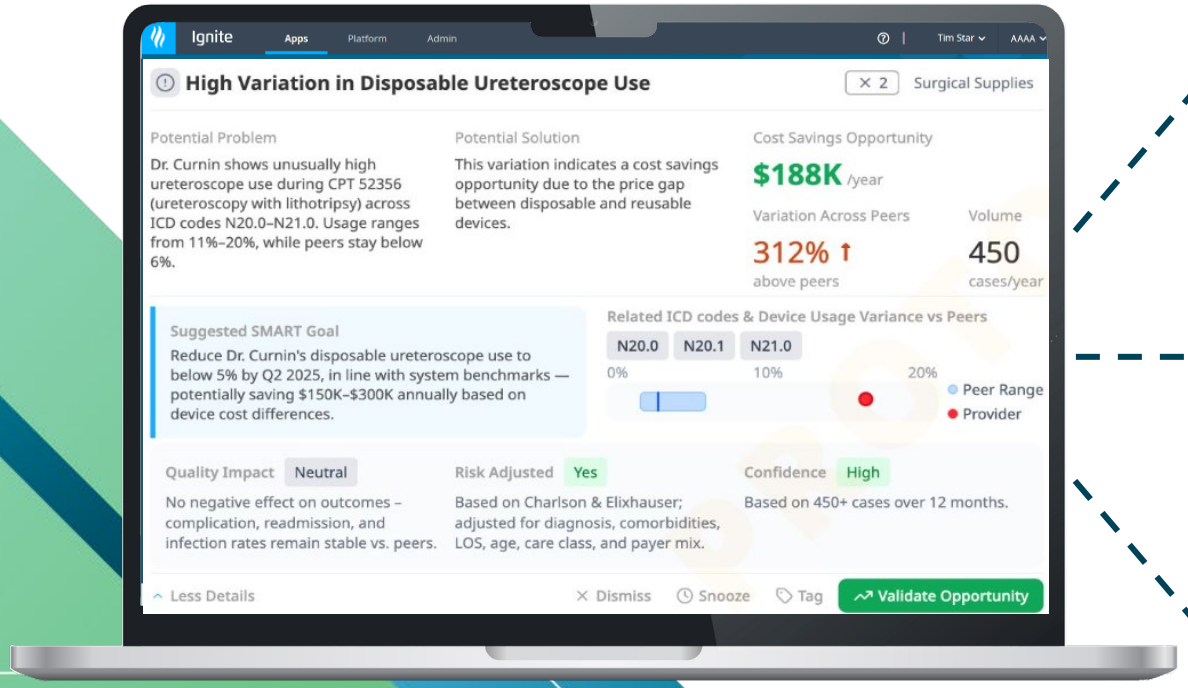
Introducing **Clinical Cost Intelligence**



WHAT IT IS

A precision cost intelligence solution purpose-built for service line leaders to eliminate unwanted variation, improve outcomes, and drive performance across sites.

WHAT IT DOES

It delivers trusted, case-level insights that help leaders:

- Identify hidden variation
- Prioritize what matters most
- Act with confidence to improve care and reduce cost.

WHAT IT MEANS

Service line transformation becomes actionable and real:

- **Standardize high-cost care** across physicians and sites
- **Engage clinicians** with data they trust and will use
- **Deliver measurable results** — often in the first year

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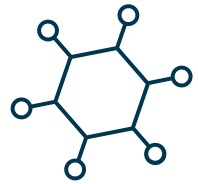
AI Enabled Activity-Based Costing

- Hundreds of thousands of combinations of providers, procedures, supplies, etc.
- Our goal is to identify cost and reimbursement variations/irregularities
- Deliver insights as understandable, actionable and measurable financial efficiencies



Multistep/Multi-Agent Framework

- Statistical/machine learning models adapted to the complexity and nuances of ABC data
- Quality Improvement (QI) Agent (LLM) combined with output of first step

High Variation in Disposable Ureteroscope Use

× 2 Surgical Supplies

Potential Problem

Dr. Curnin shows unusually high ureteroscope use during CPT 52356 (ureteroscopy with lithotripsy) across ICD codes N20.0–N21.0. Usage ranges from 11%–20%, while peers stay below 6%.

Potential Solution

This variation indicates a cost savings opportunity due to the price gap between disposable and reusable devices.

Cost Savings Opportunity

$188K /year

Variation Across Peers

312% ↑

above peers

Volume

450

cases/year

Suggested SMART Goal

Reduce Dr. Curnin's disposable ureteroscope use to below 5% by Q2 2025, in line with system benchmarks — potentially saving $150K–$300K annually based on device cost differences.

Related ICD codes & Device Usage Variance vs Peers

N20.0 N20.1 N21.0

Quality Impact Neutral

No negative effect on outcomes – complication, readmission, and infection rates remain stable vs. peers.

Risk Adjusted Yes

Based on Charlson & Elixhauser; adjusted for diagnosis, comorbidities, LOS, age, care class, and payer mix.

Confidence High

Based on 450+ cases over 12 months.

Less Details × Dismiss Snooze Tag **Validate Opportunity**

Why Clinical Cost Intelligence Works

Start Where It Matters Most
Focus on high-impact service lines under financial pressure.

Uncover What Averages Miss
Reveal hidden cost variation at the case, provider, and procedure level.

Engage Physicians with Trusted Data
Give clinicians accurate, case-level insights they believe—and use.

See Results, Fast
Drive meaningful transformation with low lift and fast ROI.

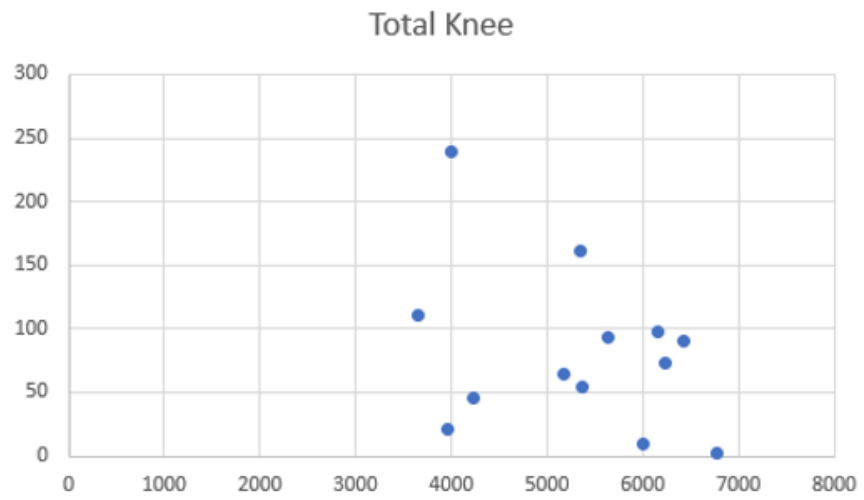
Deliver ROI Fast
Meaningful savings in year one, minimal lift.

This isn't a costing tool. It's a performance improvement engine.

Example of Clinical Cost Variation - Knee TJR

ARTHROPLASTY, TOTAL, KNEE

Opportunity Analysis



- 13 Surgeons performing this surgical procedure
- Lowest Cost surgeon performs 11% of Cases, second lowest cost provider 23% of Cases
- Supply Opportunity moving to Lowest Cost Surgeon approximately $1,472,000

PROOF & ROI

Client	Focus Area	Key Results
UPMC	Surgical Services, Orthopedics, Women's Health	• $3M saved via ERAS (2 yrs) • Reduced LOS, labor, supply variation across service lines
Temple Health	Inpatient Care, Surgical Populations	• Revenue increase via payer renegotiation • Identified variation in LOS, labs, and supply utilization
Woman's Hospital	OB/GYN, Nursing Services	• $10M in new funding • $2M in labor savings through contract labor optimization
Mid-Sized Integrated Health System (multi-state not-for-profit with acute & ambulatory care)	Oncology, Imaging, Labs, Primary Care	• $4.3M total cost reduction in 1 year • 25% ↑ in cancer screening, 11% ↓ lab costs, 80+ variation reduction projects

Questions?

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