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DATA WITH PURPOSE:

The ROI and Clinical Impact of CV Registries



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DISCLOSURES

Joel Sauer, MBA

Nothing to Disclose

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EXPECTED OUTCOME & EDUCATIONAL NEED/ PRACTICE GAP

On this slide, please include the expected outcomes, the educational need, and the practice gap of your presentation.

- **Expected outcome:** Remove registries from the shadows and make them a regular part of your performance improvement initiatives.
- **Educational Need:** Too often powerful registry data sits in quality and never gets seen by the masses doing the work in cardiology and cardiovascular surgery. These data offer a wealth of information that can be used to change operational performance and improve patient care along the way.
- **Practice Gap:** The gap is between quality departments and those responsible for CV organizational performance.

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LEARNING OBJECTIVES

1. **Shift registry data from reporting to action.** Describe how moving registry results out of the quality department and into the hands of CV teams can drive operational performance and patient care.

2. **Apply change management to registry findings.** Use leadership, team formation, and frameworks such as ADKAR and Kotter to turn registry gaps into sustained workflow change.

3. **Build an ROI case for registry-driven change.** Link process, clinical, financial, and patient-value measures to demonstrate and sustain the return on quality improvement.

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ONE PROFESSIONAL HOME
FOR THE ENTIRE CV TEAM

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AMERICAN COLLEGE of CARDIOLOGY®

THE PREMIER SOURCE FOR
CV ORGANIZATIONAL
PERFORMANCE SOLUTIONS

THE BASTION OF SCIENCE,
EDUCATION AND QUALITY FOR THE
INDIVIDUAL CARDIOLOGIST

ONE PROFESSIONAL HOME
FOR THE ENTIRE CARDIOVASCULAR TEAM



CV ORGANIZATIONS



CV PROFESSIONALS

SHARED MISSION

TO TRANSFORM CARDIOVASCULAR CARE
AND IMPROVE HEART HEALTH FOR ALL

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AUDIENCE RESPONSE QUESTION

When was the last time your registry report triggered a change in how care is delivered?

1. Beats me. We have registry reports??
2. We don't regularly review our registry reports. The quality department manages that.
3. We get a quarterly data summary, but no one does much with it.
4. It's a regular occurrence. We have a QI project going on pretty much all the time.

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AUDIENCE RESPONSE QUESTION

How much of your organizational meetings are devoted to REVIEWS vs. ACTION?

1. The vast majority of the meeting is REVIEW
2. It's a blended mix of both.
3. The vast majority of the meeting is ACTION.
4. Are you kidding? We just riff it for an hour!!

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*What would it mean if you stopped simply **showing** performance and instead, started **driving** it?”*

SHOWING

Performance on a dashboard

DRIVING

Performance into action

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A TALE OF TWO HOSPITALS – IN THE SAME SYSTEM

Metric Name (Reset Sort)	Hospital A My R4Q	Hospital B My R4Q	50th US Pctl
Transcatheter Aortic Valve Replacement			
Procedure Information - Anesthesia Type			
9438 - General anesthesia	96.7% (202/209)	4.5% (6/134)	17.8%
15352 - Deep sedation/analgesia	3.3% (7/209)	0.7% (1/134)	0.1%
10330 - Moderate sedation/analgesia	0.0% (0/209)	**94.8% (127/134)**	60.7%
15356 - Minimal sedation/anxiolysis	0.0% (0/209)	0.0% (0/134)	0.1%
Procedure Information - Procedure status			
10730 - Elective	99.0% (207/209)	99.3% (133/134)	94.6%
9600 - Urgent	1.0% (2/209)	0.7% (1/134)	5.2%
9302 - Emergency	0.0% (0/209)	0.0% (0/134)	0.1%
15476 - Salvage	**0.0% (0/209)**	**0.0% (0/134)**	0.0%

The Opportunity

High use rate of General Anesthesia in TAVR by Hospital A.

Impact of a Shift to Moderate Sedation

- Improved clinical outcomes
- Enhanced efficiency
- Improved patient experience
- Reduce the costs of care

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Quadruple Aim – Walking the Talk



THE CONNECTION

Operational Performance and Quality are Intertwined

- **Better Outcomes** – Evidence-based care that improves health
- **Patient Experience** – Safe, timely, patient-centered care
- **Lower Cost** – Cost-effective care with less waste
- **Care Team Well-Being** – A team that is valued and supported

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IS QUALITY REALLY EXPENSIVE??

COST OF MEASURING QUALITY | ANNUALLY

Median Total Net Hospital Revenue **$150,000,000**

Percentage Attributable to CV **$52,500,000**

Total Registry Participation & Abstraction Costs **$750,000**

COSTS AS A PERCENTAGE OF NET REVENUE

1.4%

A small fraction of revenue to measure quality

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“Every problem is an opportunity in disguise.”

~ John Adams



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It Starts With Leadership

Two Key Responsibilities of Leaders

1. **Create a common purpose that enables, motivates, engages, rewards doing the right thing**
   Meeting the quadruple aim – high quality, great experience, cost effective, team is valued

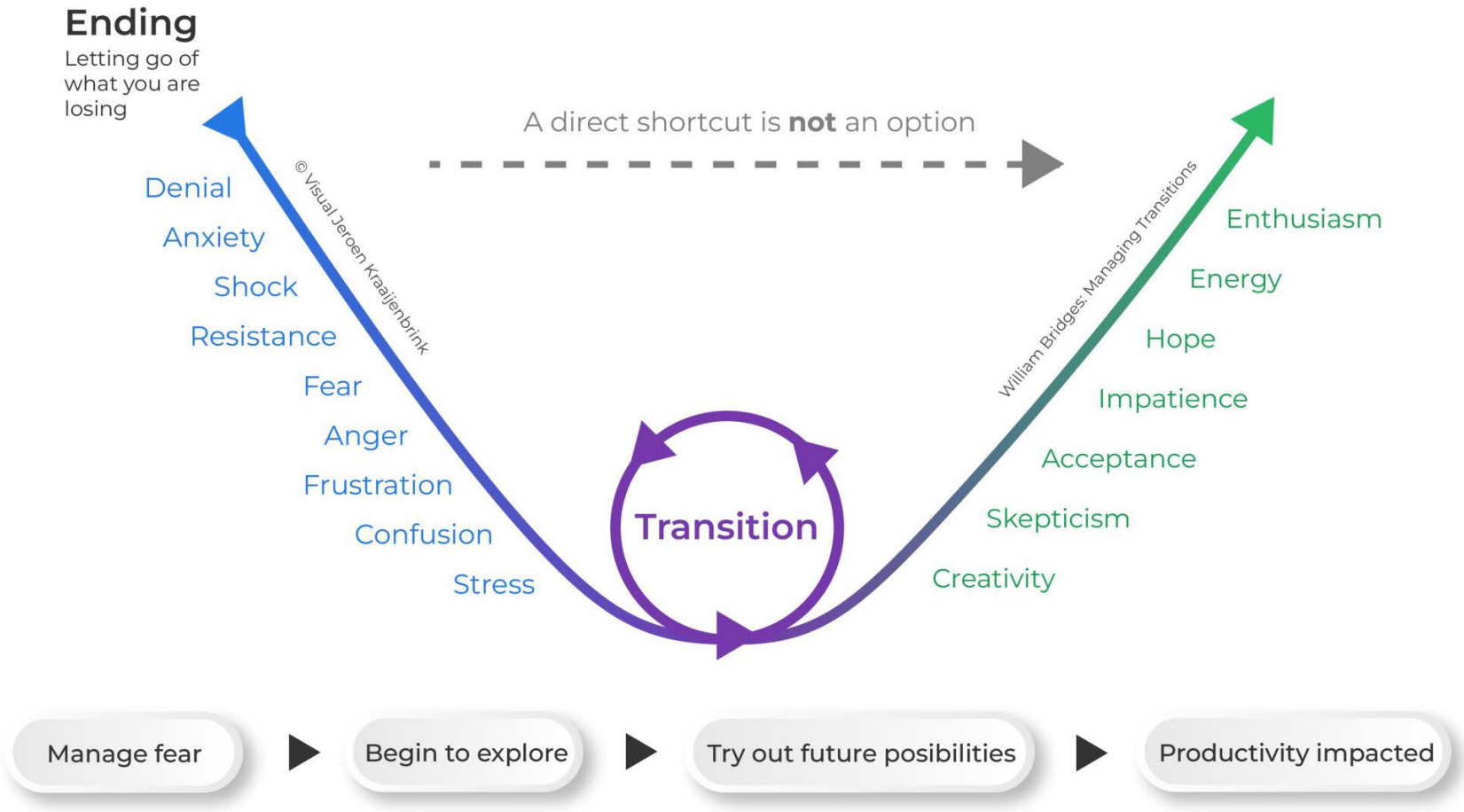
2. **Assure everyone has what they need to do their job**
   Skills, support, equipment, SAFETY – make it easy to do the right thing



Data doesn't create change. Leadership does.

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THE EMOTIONAL ROLLER COASTER OF CHANGE



Adapted from William Bridges' *Managing Transitions* by Jeroen Kraaijenbrink

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4 STAGES OF CHANGE

Confusion and surprise	*“Wait! We’re doing what??”*
Reacting to differences	*“This is so uncomfortable. I’m not sure I like it.”*
Pining for the past	*“I wish could go back to the old way. This sucks”*
Adaptation and acceptance –	*“Hmm, this may be better. I think I like it after all”*

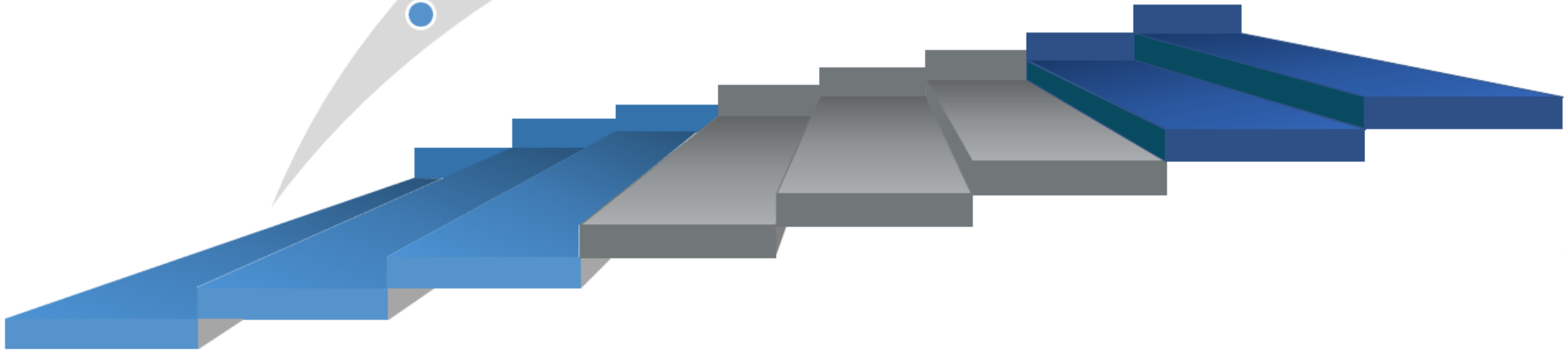
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KOTTER'S CHANGE MODEL

- Establish a sense of urgency
- Create a guiding coalition
- Develop a change vision

- Communicate the vision for buy-in
- Empower broad-based action
- Generate short-term wins

- Never let up
- Incorporate change into culture



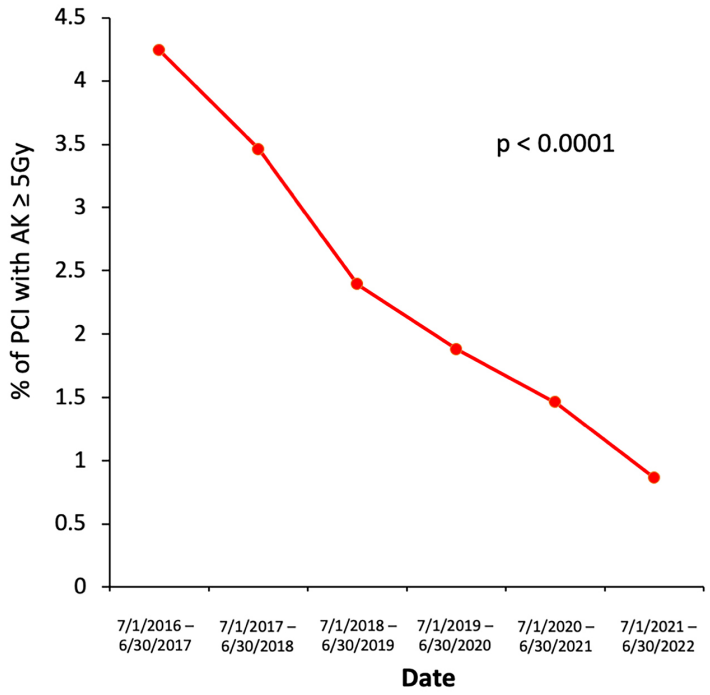
UK HealthCare
GILL HEART & VASCULAR INSTITUTE
Network

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HOW DID THEY DO THAT??!

Supported, Incremental change



Timeline of Radiation Safety Initiative

- December 2017: baseline assessment of PCI radiation doses at each hospital
- January 2018: took measures to enhance completeness of radiation dose data collection
- April 2018: educational session on techniques to reduce patient, operator and staff radiation doses
- November 2019: institutional variability in PCI radiation doses shared for first time
- December 2019: distributed survey regarding radiation safety practices to cath labs
- February 2020: results of survey shared across hospitals
- April 2020: Results of analysis on PCI radiation doses were published and shared with hospitals
- January 2021: PCI radiation dose added as performance metric for all hospitals
- April 2021: education session on the rationale of collecting radiation dose data
- May 2021: a "Best Practice Protocol to Enhance Cath Lab Radiation Safety" document created and distributed to all institutions in the collaborative

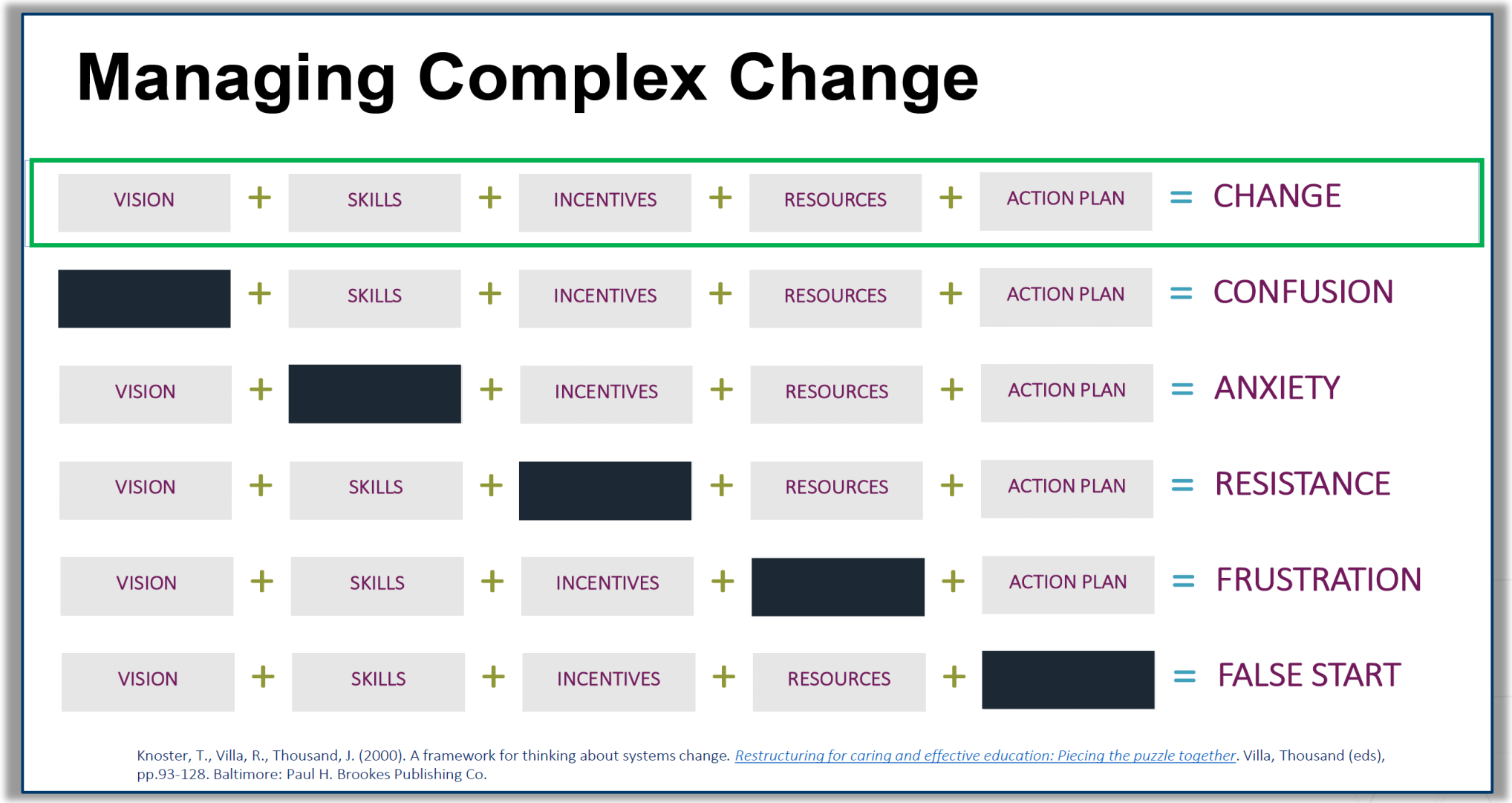
Ryan D. Madder. Circulation: Cardiovascular Interventions. Statewide Initiative to Reduce Patient Radiation Doses During Percutaneous Coronary Intervention, Volume: 17, Issue: 2, Pages: e013502, DOI: (10.1161/CIRCINTERVENTIONS.123.013502)

- **A** Awareness
- **D** Desire
- **K** Knowledge
- **A** Ability
- **R** Reinforcement

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A COMPLETE APPROACH TO IMPLEMENTATION



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So, where do I start??



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TIMING IS EVERYTHING

- Is it the right time?
- The right place?

?



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FORM A TEAM

Role	Responsibilities	Notes
Executive Sponsor	Champions the effort at leadership level; removes barriers	*Consider service line or clinical program -level leader*
Clinical Champions	Brings peer credibility, drives engagement, gives clinical insight	*Should be a respected peer with data openness*
Registry/Quality Lead	Provides registry reports, tracks impact, validates changes	*Ideally understands how data intersects with clinical workflows*
Frontline Voice	Gives insight into workflow challenges, helps with implementation	*Crucial for identifying real-world barriers*
QI/Process Expert	Helps design tests of change, supports monitoring	*Offers Lean/Six Sigma or operations support*

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TEAMS MAKE COMPLEX CHANGE EASIER

- Do your homework
- Involve those closest to the process
- Share the why and the how
- Keep things in scope; avoid boiling the ocean
- Beware the “Road to Abilene”



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THE ABILENE PARADOX

"We took a 106-mile trip through the Texas desert... and no one actually wanted to go."

- Everyone said "yes" to avoid conflict.
- No one shared their true opinion.
- The result? A shared decision no one supported.
- It's not disagreement that derails teams it's **false agreement.**



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MAKE A PLAN….BUT FINALLY, JUST GO!



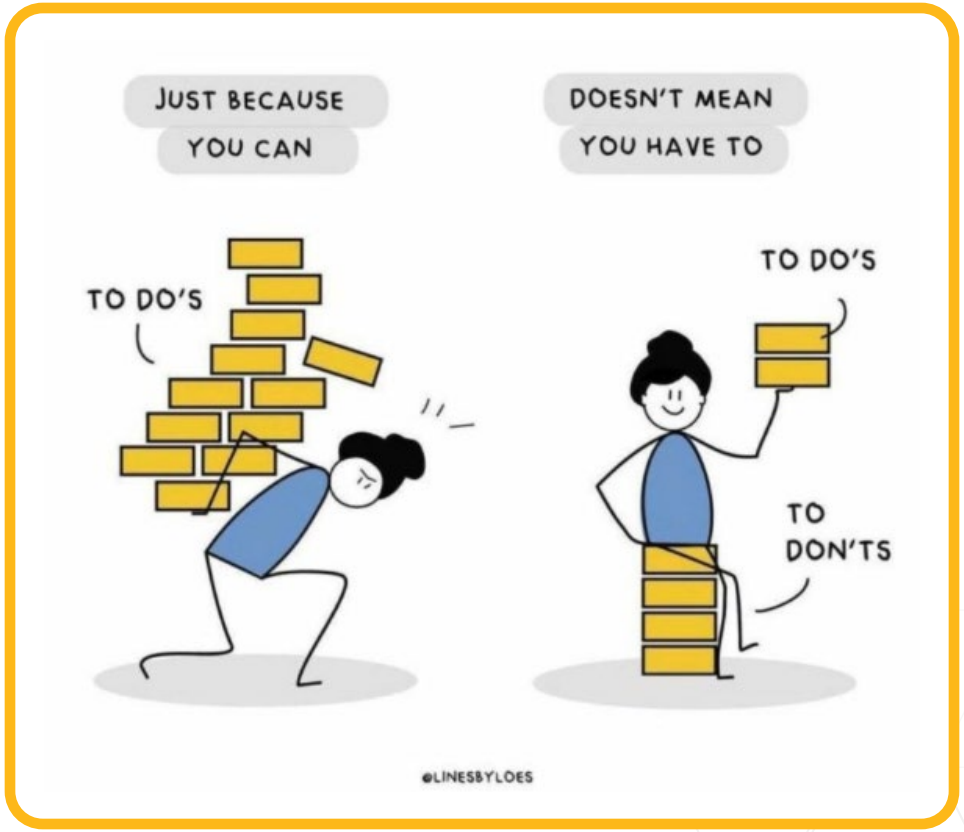
> **If you don’t know where you’re going, you’ll end up someplace else.**
>
> — Yogi Berra

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YOU'RE NOT ALONE

Empower others to give their input and take on responsibility

Building a sense of ownership leads to more engagement and motivation

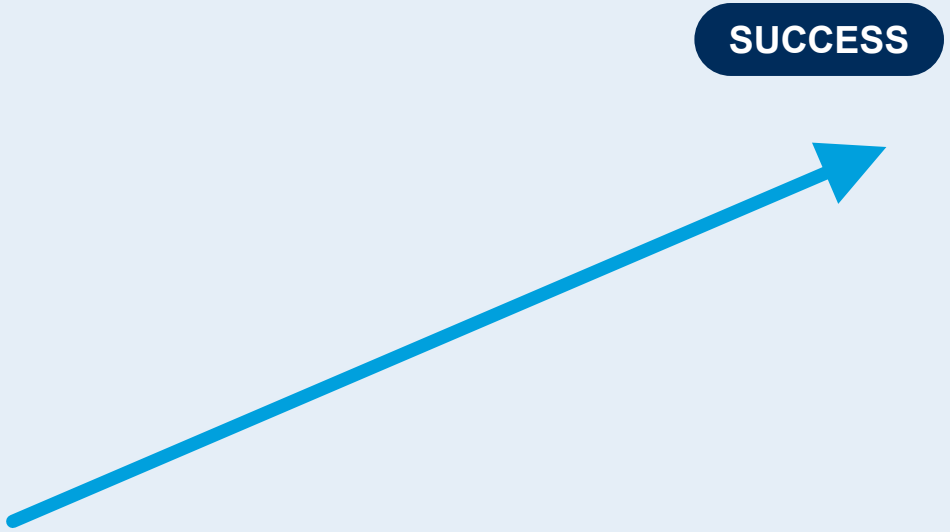


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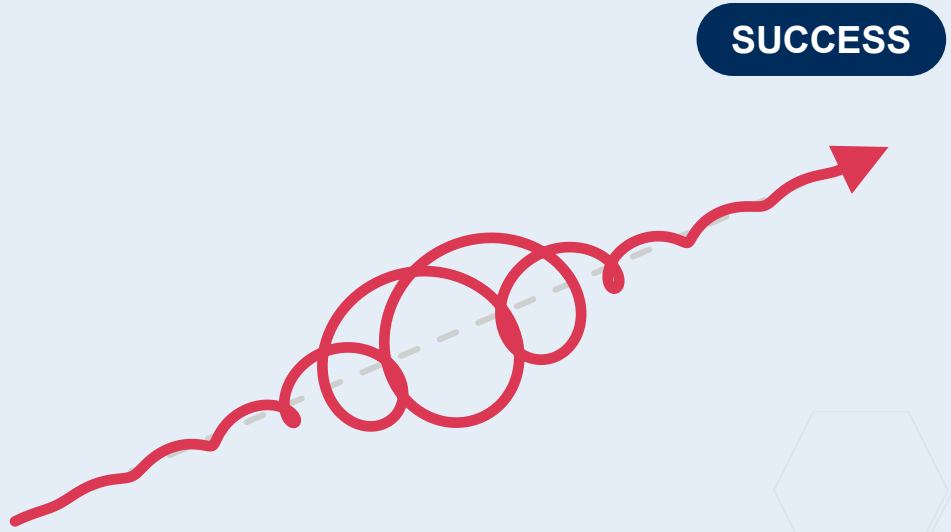
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TRANSFORMATION COMES FROM A SERIES OF SMALL CHANGES!

CHANGE ISN'T LINEAR



What people think it looks like



What it really looks like

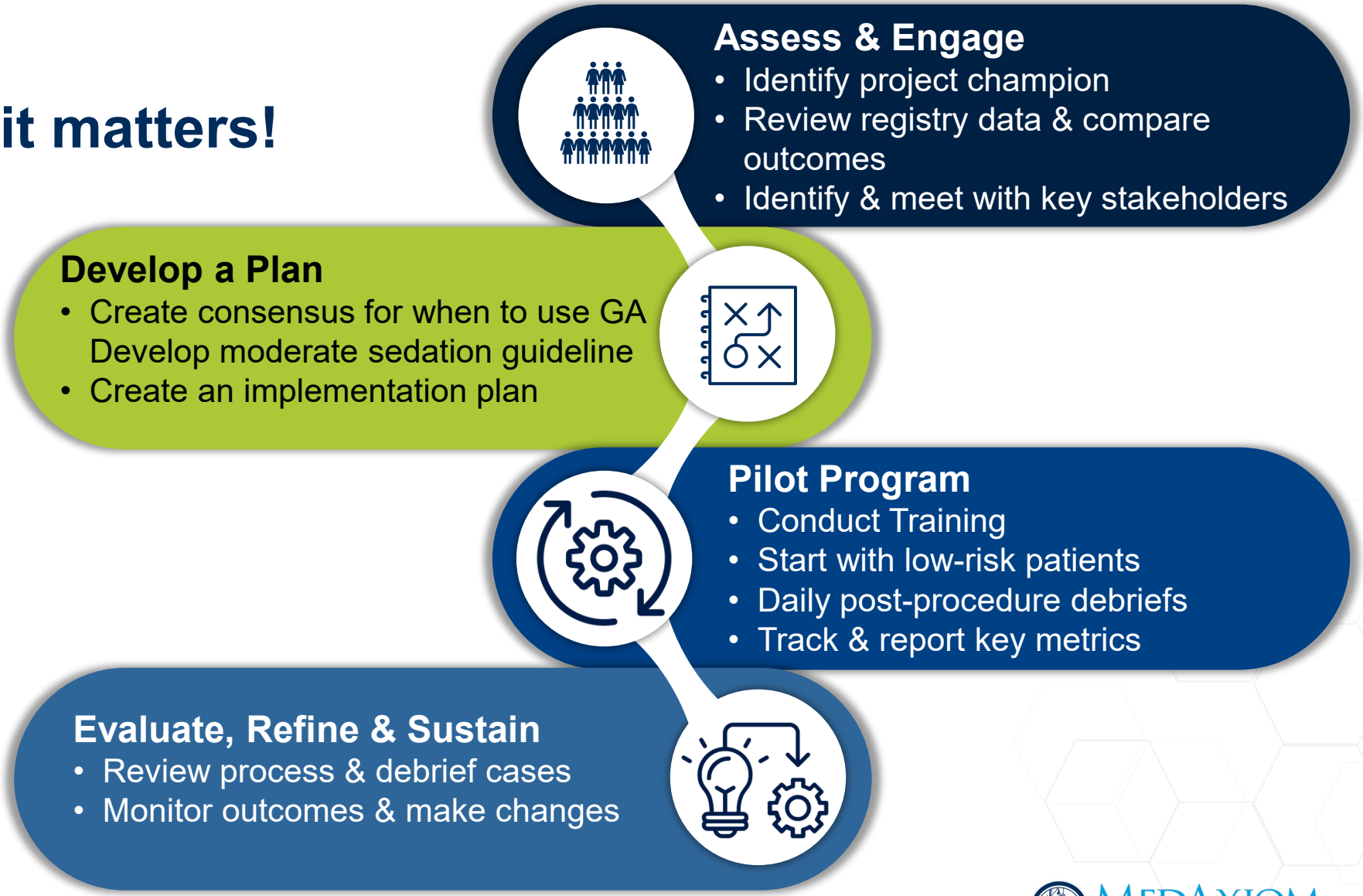
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CHANGE MANAGEMENT STEPS - INCREASING USE OF MODERATE SEDATION

STEP 1

Detail why it matters!



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AUDIENCE RESPONSE QUESTION

What do you think the likelihood of success is for increasing the use of moderate sedation for TAVR cases?

1

High – The road is clear, just need to start driving

2

Moderate – We'll get there, but expect a few detours

3

Low – Feels like pushing a valve through a 6Fr sheath

4

Depends – Ask me again after anesthesia finishes arguing with cardiology

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CHANGE MANAGEMENT LEADERSHIP



Recognize

Use registry data to identify performance gaps and variation

Understand

Diagnose root causes and validate with frontline feedback

Strategize

Assemble multidisciplinary teams and define desired outcomes

Implement

Pilot and scale sustainable interventions

Monitor & Reinforce

Track impact, course correct and sustain through governance

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DO YOUR BEST

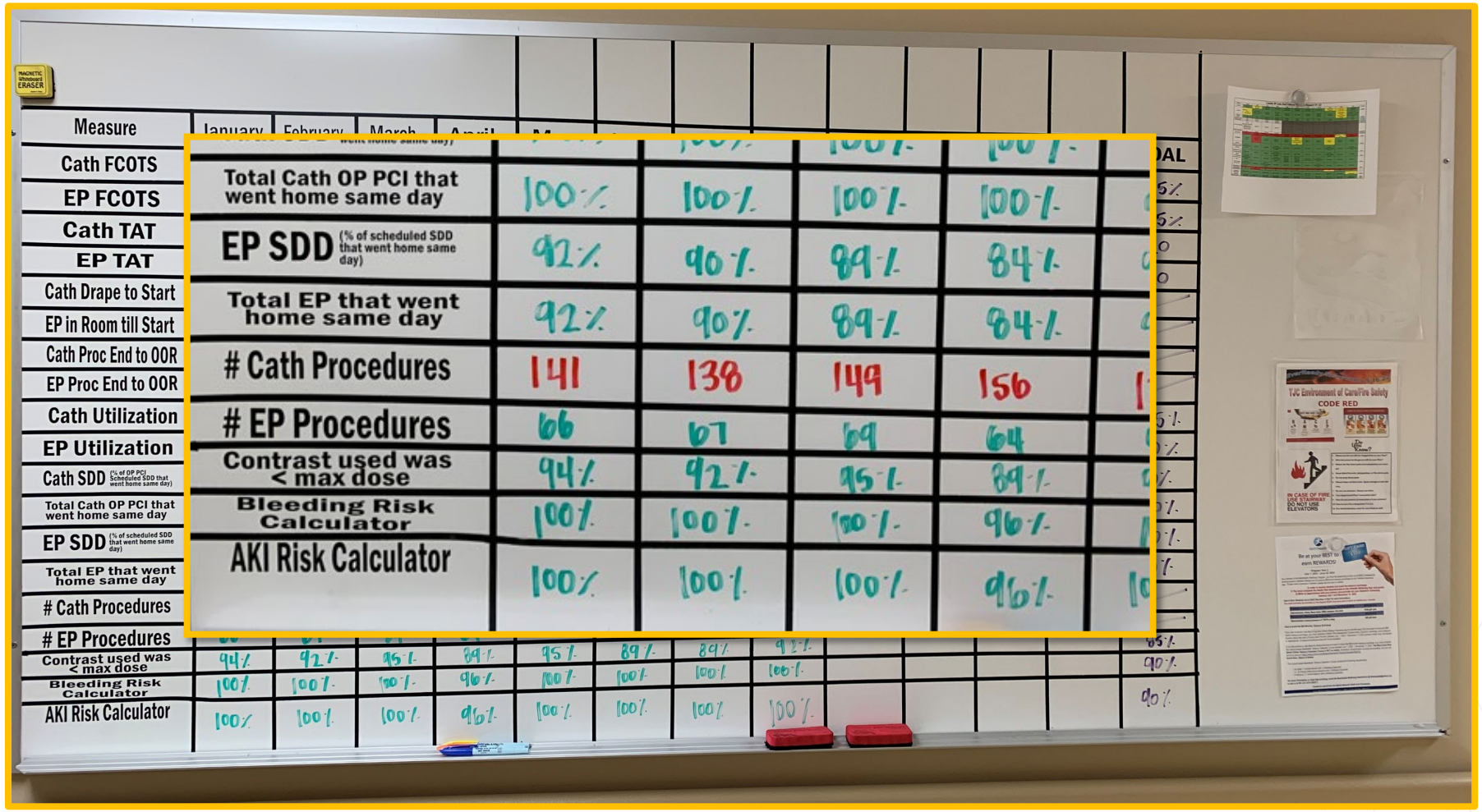
Your Best May Look Different Each Day



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KEEP DATA VISIBLE



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REGISTRY DATA TO REAL-WORLD CHANGE

A STRUCTURAL HEART CASE STUDY

Using the TVT Registry to standardize cardiac rehabilitation referral before discharge

The registry did more than report performance.

It exposed variation, created urgency, guided workflow redesign, and sustained accountability.

530 patients | 7 quarters | 100% referral documentation

Source: Wilder EH, et al. JACC Case Reports. 2025;30:105898. doi:10.1016/j.jaccas.2025.105898.

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THE REGISTRY REVEALED A RELIABILITY PROBLEM

Referral documentation was low, variable, and dependent on local practice.

8.3%	0%	7.7%
TAVR referral documentation Q1 2021	mTEER referral documentation Q1 2021	TMVR referral documentation early 2022

What the data made visible

- No standardized internal referral process
- Inconsistent provider-patient communication and discharge documentation
- Limited cardiac rehabilitation RN coverage
- Variation across TAVR, TMVR, and mTEER pathways

Opportunity: convert a registry metric into a reliable discharge process.

Source: Wilder EH, et al. JACC Case Reports. 2025;30:105898. doi:10.1016/j.jaccas.2025.105898.

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THE CHANGE: BUILD THE METRIC INTO THE WORKFLOW

A multidisciplinary PDSA cycle moved the work from retrospective review to point-of-care reliability.

PLAN	DO	STUDY	ACT
Align definitions	**Redesign workflow**	**Audit monthly**	**Standardize + spread**
TVT referral definition + certification standards	EHR orders, smart phrase, bedside consult, RN coverage	Review missed consults and target barriers	Refine the process and expand to other cardiac programs

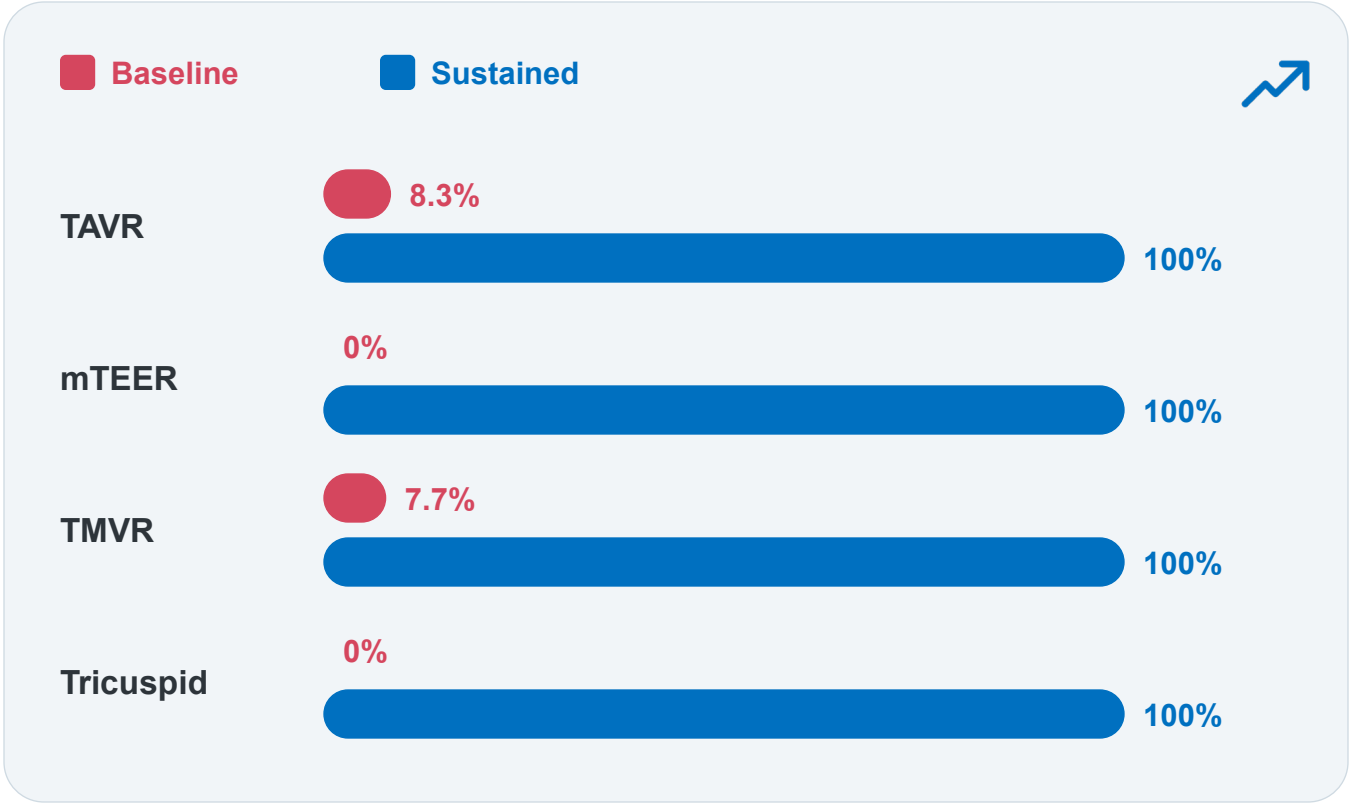
Design principle: make the right action the default, then use registry data to verify reliability.

Source: Wilder EH, et al. JACC Case Reports. 2025;30:105898. doi:10.1016/j.jaccas.2025.105898.

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RESULTS: VARIATION WAS REPLACED BY RELIABILITY

The intervention reached and sustained 100% documentation across the structural heart portfolio.



530

patients across 7 quarters

456	59	15
TAVR	mTEER	TMVR + tricuspid

Phase I consult orders also exceeded 85% in every quarter of 2024.

Source: Wilder EH, et al. JACC Case Reports. 2025;30:105898. doi:10.1016/j.jaccas.2025.105898.

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FROM QUALITY IMPROVEMENT TO ROI

The published project measured process reliability, not dollars or patient outcomes. ROI must be built as a linked value case.

FINANCIAL

Avoidable utilization

Readmissions, ED visits, LOS, post-acute care, staff rework

Measures to add

30/90-day utilization; direct cost per episode; CR conversion rate

CLINICAL

Recovery + outcomes

Functional capacity, exercise tolerance, morbidity and mortality

Measures to add

CR enrollment; sessions completed; KCCQ; 6-minute walk; mortality

PATIENT VALUE

Access + experience

Education, shared decision-making, equitable referral and local access

Measures to add

Time to first visit; travel burden; refusal reason; patient-reported experience

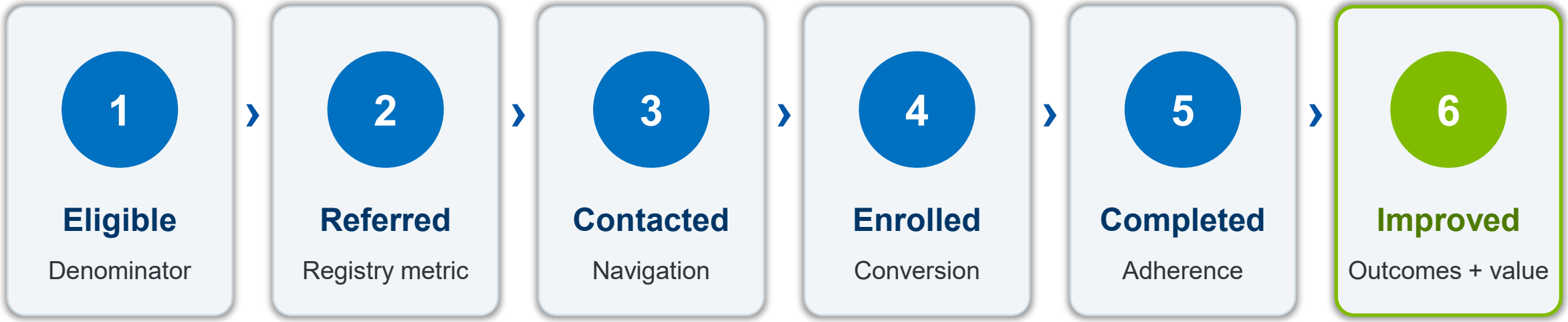
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THE VALUE CHAIN: MEASURE EVERY HANDOFF

Referral documentation is necessary, but the return is realized only when patients participate and benefit.



ROI formula

(Avoided utilization + contribution from retained care + productivity gains) - implementation cost

Implementation cost EHR build + staffing + training + navigation + analytics

Source: Wilder EH, et al. JACC Case Reports. 2025;30:105898. doi:10.1016/j.jaccas.2025.105898.

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A PRACTICAL ROI SCORECARD FOR REGISTRY-DRIVEN CHANGE

Use baseline, pilot, and sustainment views. Pair registry measures with finance, EHR, and patient-reported data.

DOMAIN	CORE MEASURE	WHY IT MATTERS
Reliability	% referred before discharge	*Confirms workflow execution*
Conversion	% starting CR within 30 days	*Tests whether referral becomes care*
Clinical	KCCQ / 6MWT change; 30- and 90-day utilization	*Connects participation to outcomes*
Equity	Enrollment by geography, age, sex, race/ethnicity, payer	*Identifies access barriers*
Financial	Net cost per episode; avoided utilization; labor rework	*Quantifies economic return*
Sustainment	Quarterly performance and missed-opportunity review	*Prevents regression*

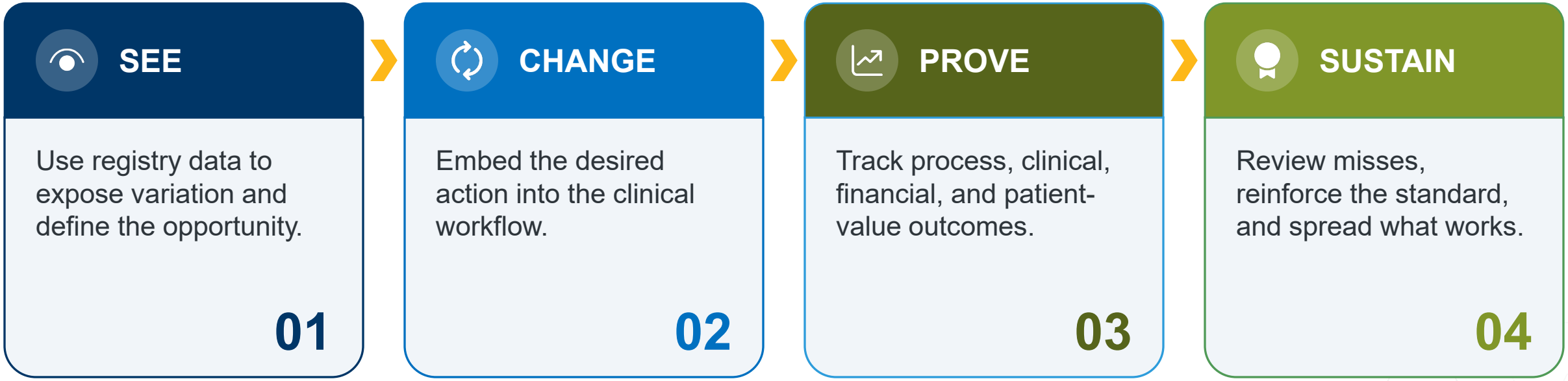
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THE LESSON: REGISTRIES CREATE VALUE WHEN THEY CHANGE WORK

The measure is not the outcome. The measure is the management system that helps teams reach the outcome.



Data does not create change. Leadership turns data into value.

Source: Wilder EH, et al. JACC Case Reports. 2025;30:105898. doi:10.1016/j.jaccas.2025.105898.

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CELEBRATE YOUR WINS



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KEY TAKEAWAYS

From Data to Action



1 Registry data is a strategic asset



2 Change starts with identifying the right opportunity



3 Seek input from the ones impacted by the change.



4 Emotions are part of the journey



5 Track impact, course correct and sustain through governance



6 Data doesn’t create change. Leadership does.

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Q&A

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THANK YOU FOR ATTENDING THIS SESSION!

Questions/Discussion

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