

Moving from Quality to Value in your Improvement Work

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Disclosures

- No financial conflicts of interest to disclose

Welcome and Introductions



Learning Objectives

- Define value as it applies to the healthcare environment
- Design a value improvement project that incorporates concepts of value in all stages of the project
- Develop techniques to measure value and changes in value for improvement projects

Agenda

- Introduction to Value and Value Improvement
- Breakout #1: Initial Value Project Selection and Planning
- Value/Cost Measure Selection and Data Challenges
- Breakout #2: Develop Value Measures
- Develop Strategy for your Value Improvement
- Breakout #3: Key Driver / Intervention Development
- Wrap-up

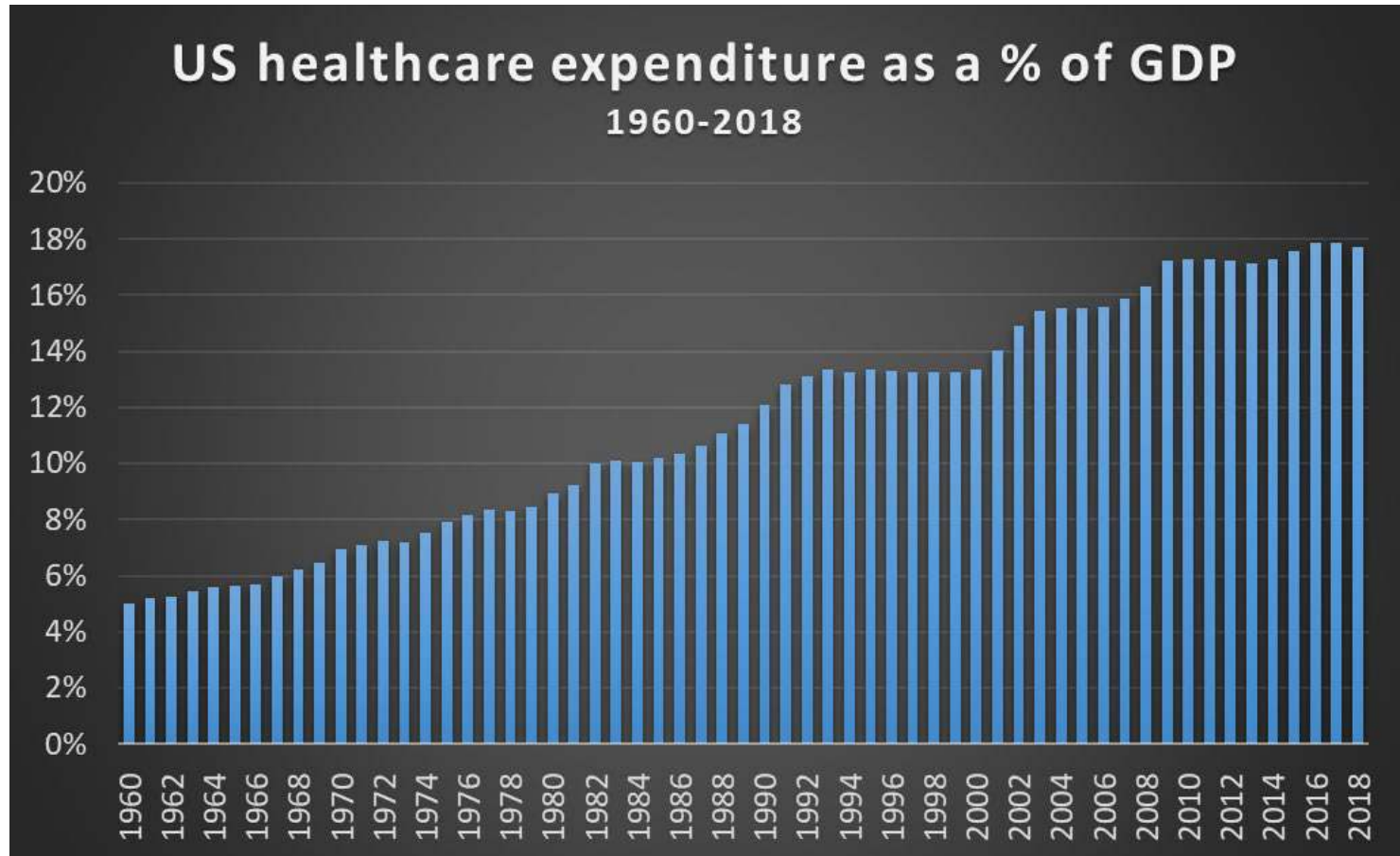
Value and Value Improvement

(background)

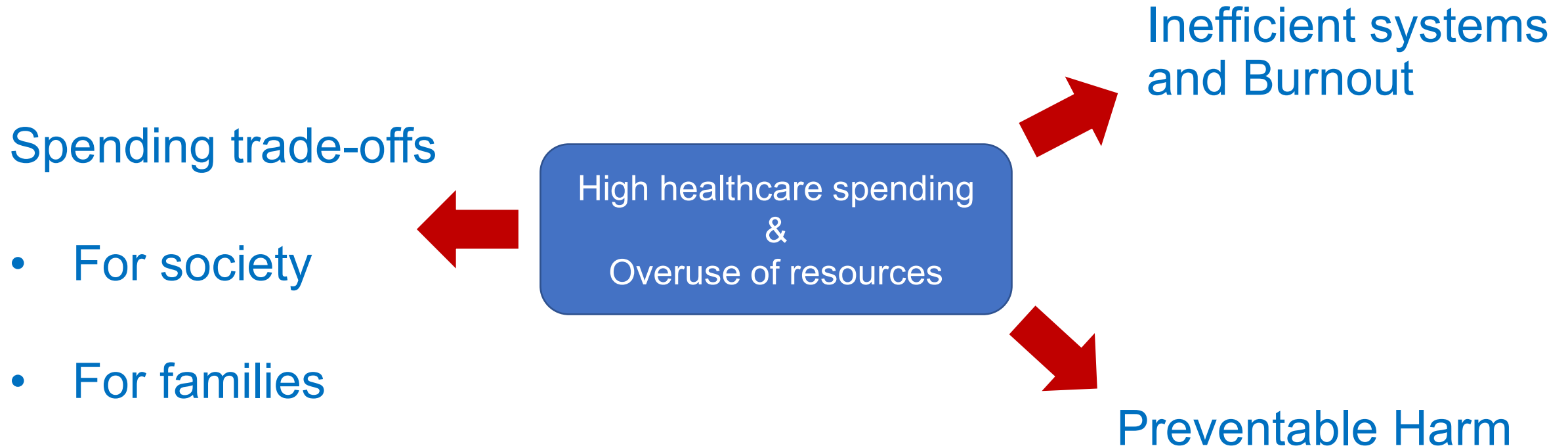


Background

- Healthcare in the US is expensive and growing more so
- Are we getting our money's worth?



Implications of overspending & overuse



What is Value?



Defining Value

Classic Definition of Value

$$\text{Value} = \frac{\text{Quality}}{\text{Cost}}$$

The Value Equation

$$\text{Value} = \frac{\text{Outcomes} + \text{Patient Experience}}{\text{Cost and Inputs}}$$

The Value Equation

$$\text{Value} = \frac{\text{Outcomes} + \text{Patient Experience} \times \text{Equity}}{\text{Cost and Inputs}}$$

To improve the value of care:

Outcomes + Patient Experience

Cost and Inputs



Improve
Outcomes



Maximize Benefit
to Patients



Minimize Harm



Incorporate
Patient Values

To improve the value of care:

Outcomes + Patient Experience

Cost and Inputs



Minimizes Care
that provides no
benefit



Minimizes Cost
when effectiveness
is equal



Decrease wasted
resources –
improve efficiency



Decrease wasted
staff time – improve
burnout and work
quality

A Value Matrix

	High Value	Low Value
High Cost	Chemotherapy for ALL	MRI for uncomplicated headache
Low Cost	Vaccines	Albuterol for bronchiolitis

Value Improvement Projects

What is a Value Improvement Project?

A project whose outcomes focus on improving the **value** of care

- Improved outcomes and patient experience

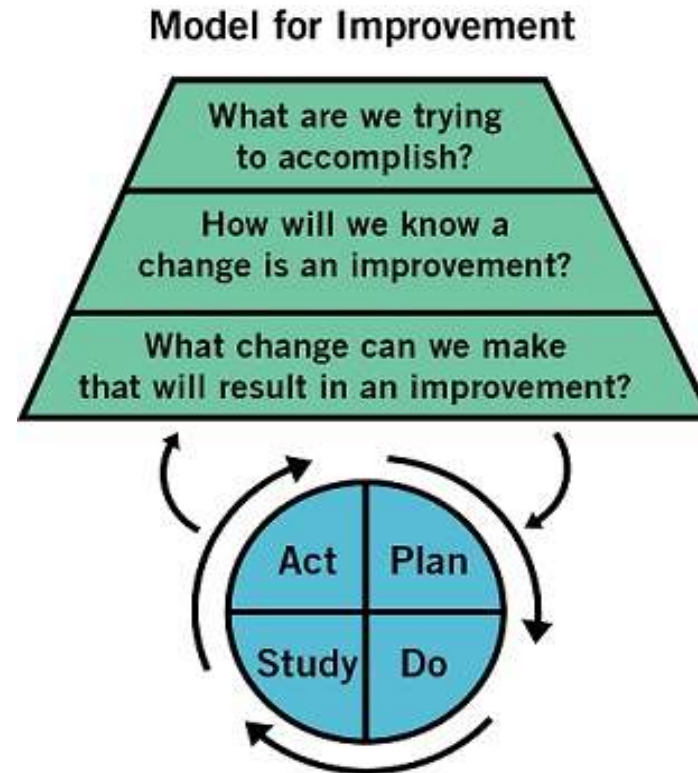
AND/OR

- Lower cost/resource utilization

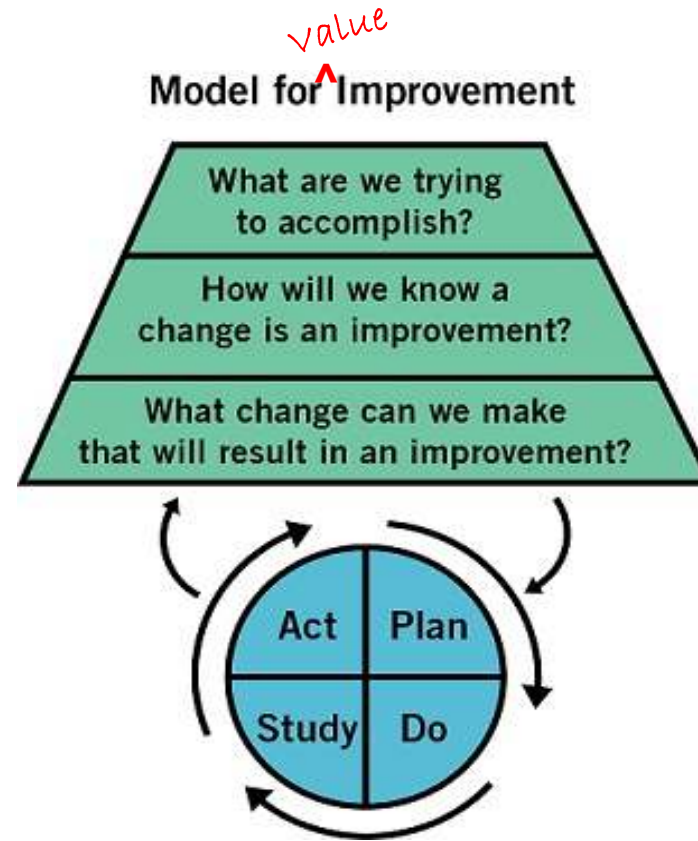
**Outcomes +
Patient Experience**

Cost and Inputs

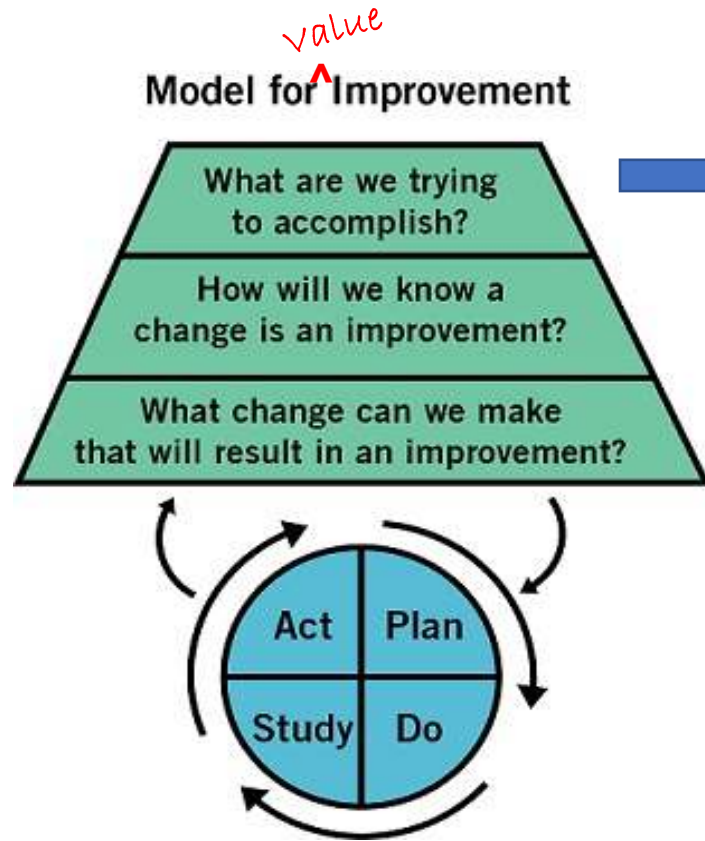
Model for Improvement



Model for Value Improvement



Model for Value Improvement



What are we trying to accomplish to improve the value of patient care?

Approaches to Choosing Value-focused Aims

Approach #1:

Improve both patient outcomes and decrease cost

Example:

Focus on reducing overuse

Overuse - medical care where the benefits of utilization do not outweigh costs or harms

Categories of Overuse

- Overtreatment
- Overdiagnosis
- Overtesting
- Overutilization of other resources

**Outcomes +
Patient Experience**

Cost and Inputs

Approaches to Choosing Value-focused Aims

Approach #2:

Maintaining quality while reducing costs / resource utilization

i.e. increase efficiency of care

Example:

- Eliminate processes that do not change outcomes

**Outcomes +
Patient Experience**

Cost and Inputs

Approaches to Choosing Value-focused Aims

Approach #3:

Improving underuse, patient experience, or equitable access to resources while maintaining cost

i.e. increasing utilization of best-practice / evidence-based care

Examples:

- Increased vaccine uptake

**Outcomes +
Patient Experience**

Cost and Inputs

Approaches to Choosing Value-focused Aims

Choose projects based on already established value principles

- Choosing Wisely
- Evidence-based guidelines
- Value Improvement Guides from the High-Value Practice Academic Alliance
- PHIS Low-Value Care Calculator

**Outcomes +
Patient Experience**

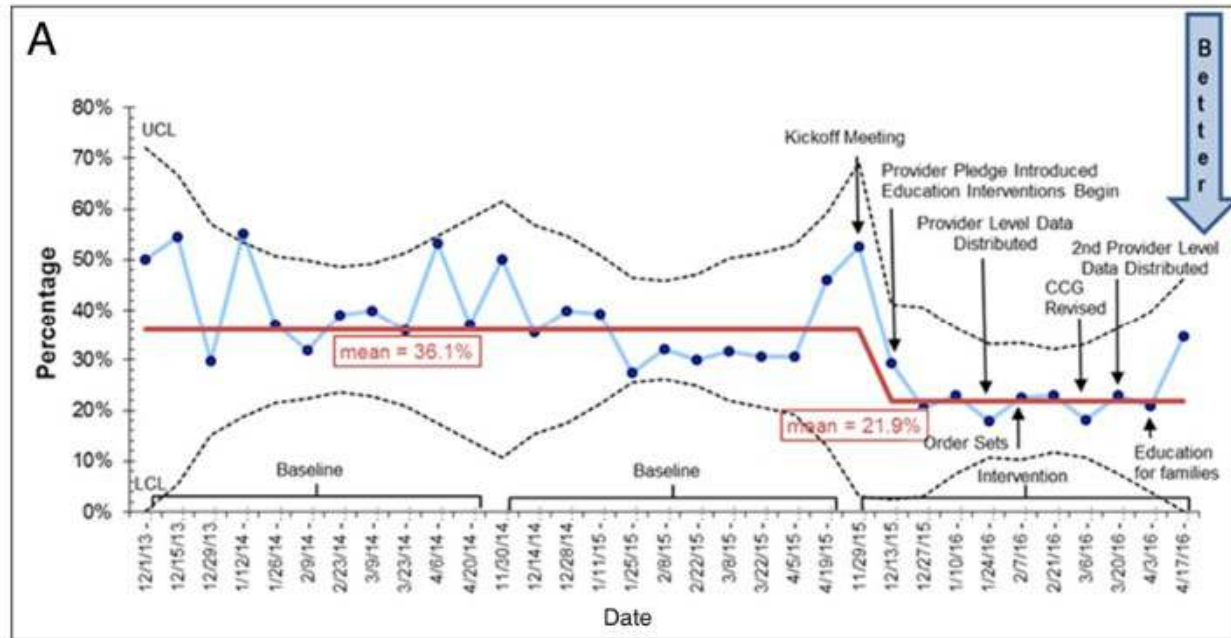
Cost and Inputs

Examples of Aims related to value

Interventions to Reduce Over-Utilized Tests and Treatments in Bronchiolitis

Amy Tyler, MD, MScS,^{a,b} Paige Krack, MBA, MS,^a Leigh Anne Bakel, MD, MSc,^{a,b} Kimberly O'Hara, MD,^{a,b} Douglas Scudamore, MD,^{a,b} Irina Topoz, MD,^{a,b} Julia Freeman, MD,^{a,b} Angela Moss, MS,^c Renee Allen,^a Angela Swanson, MS,^a Lalit Bajaj, MD, MPH^{a,b}

- Adherence to Bronchiolitis guidelines
- Reduce overtesting, misdiagnosis and overtreatment
- CXR's incur cost, lead to misdiagnosis and overtreatment



Examples of Aims Related to Value

Reducing Electrolyte Testing in Hospitalized Children by Using Quality Improvement Methods

Michael J. Tchou, MD,^{a,b} Sonya Tang Girdwood, MD, PhD,^a Benjamin Wormser, MD,^c Meifawn Poole, DO,^c Stephanie Davis-Rodriguez, MD, MSc,^c J. Timothy Caldwell, MD, PhD,^c Lauren Shannon, CNP, MSN,^a Philip A. Hagedorn, MD,^a Eric Biondi, MD, MSBA,^d Jeffrey Simmons, MD, MSc,^{a,b} Jeffrey Anderson, MD, MBA,^{b,e} Patrick W. Brady, MD, MSc^{a,b}

Global Aim:

Reduce non-value added lab testing in the inpatient setting, with resulting improvement of value and patient / family experience

Specific Aim:

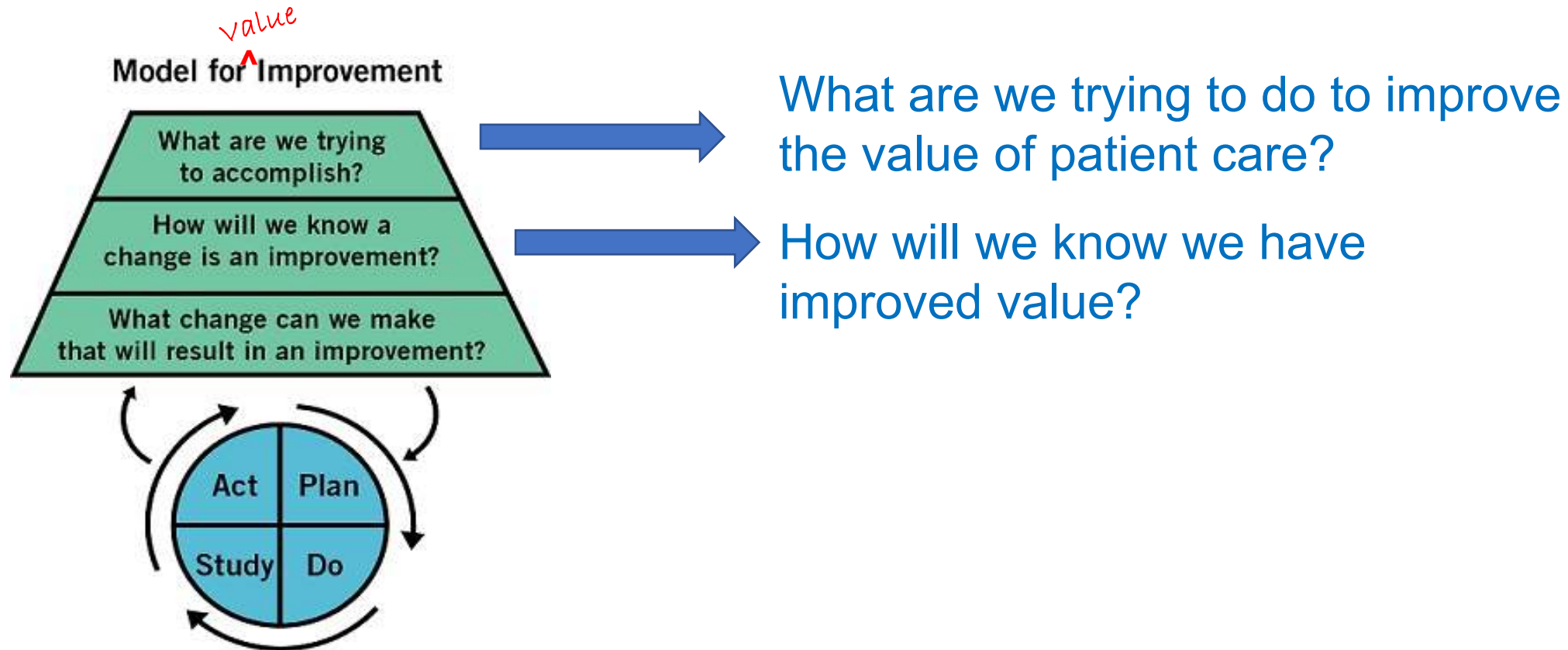
Reduce electrolyte labs drawn on hospital medicine services by 25% by January 2017

Breakout Group #1

- Introductions in your small group
- Brainstorm potential/actual value improvement projects
- Identify how the projects improve value and what aspects of the value equation are involved
- Write a SMART Aim for your value improvement project

Measuring Improved Value

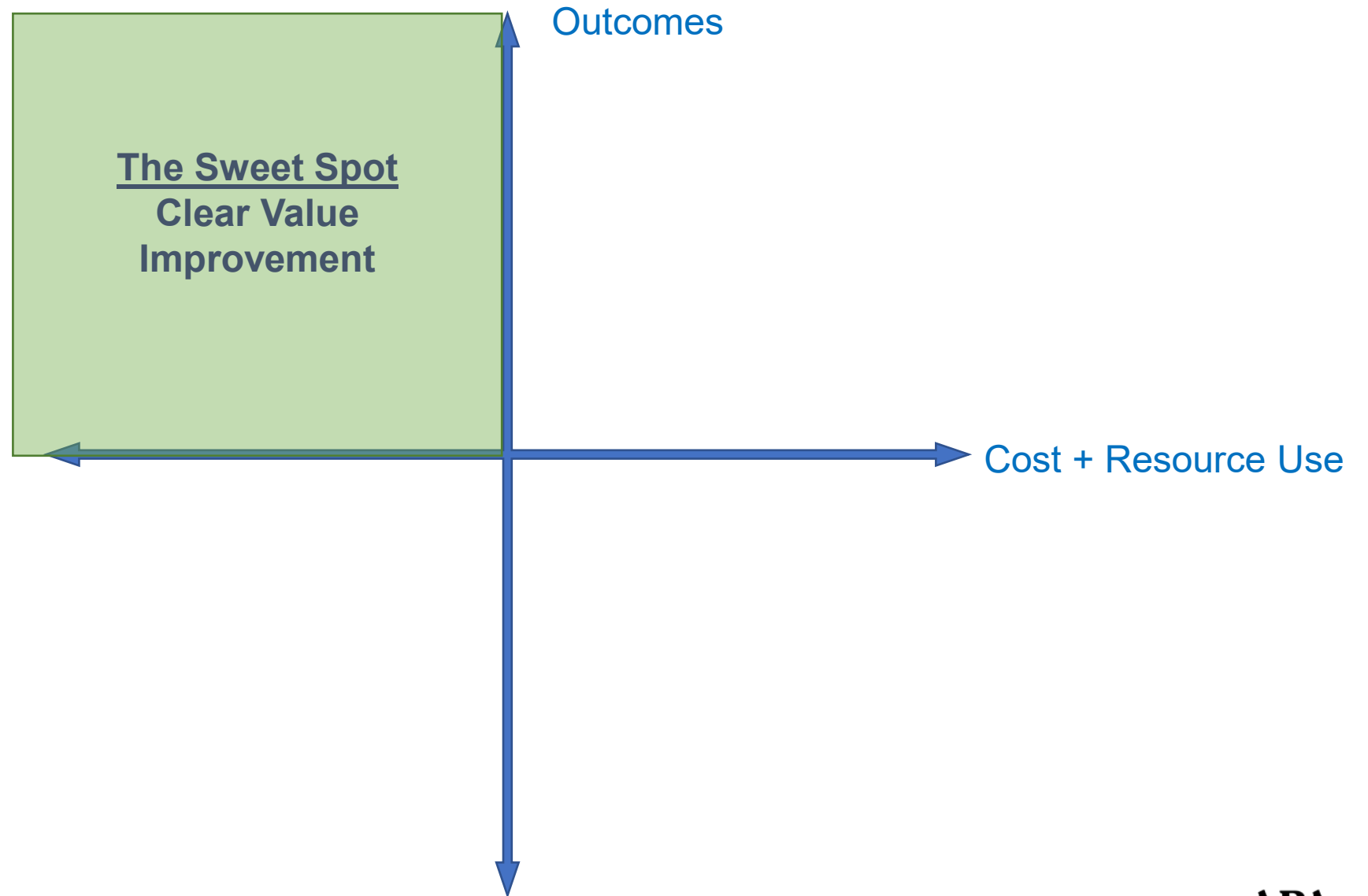
Model for Value Improvement

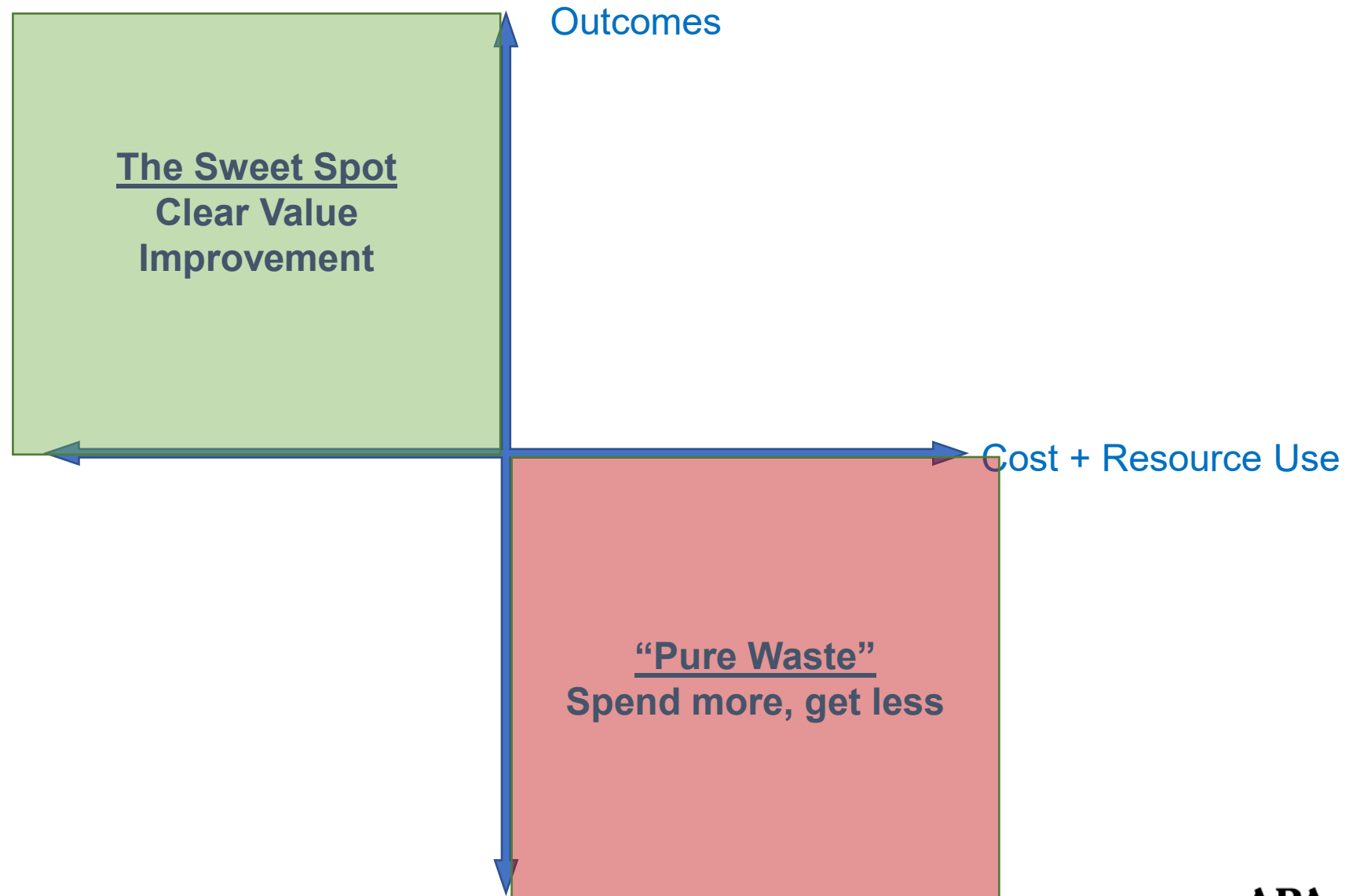


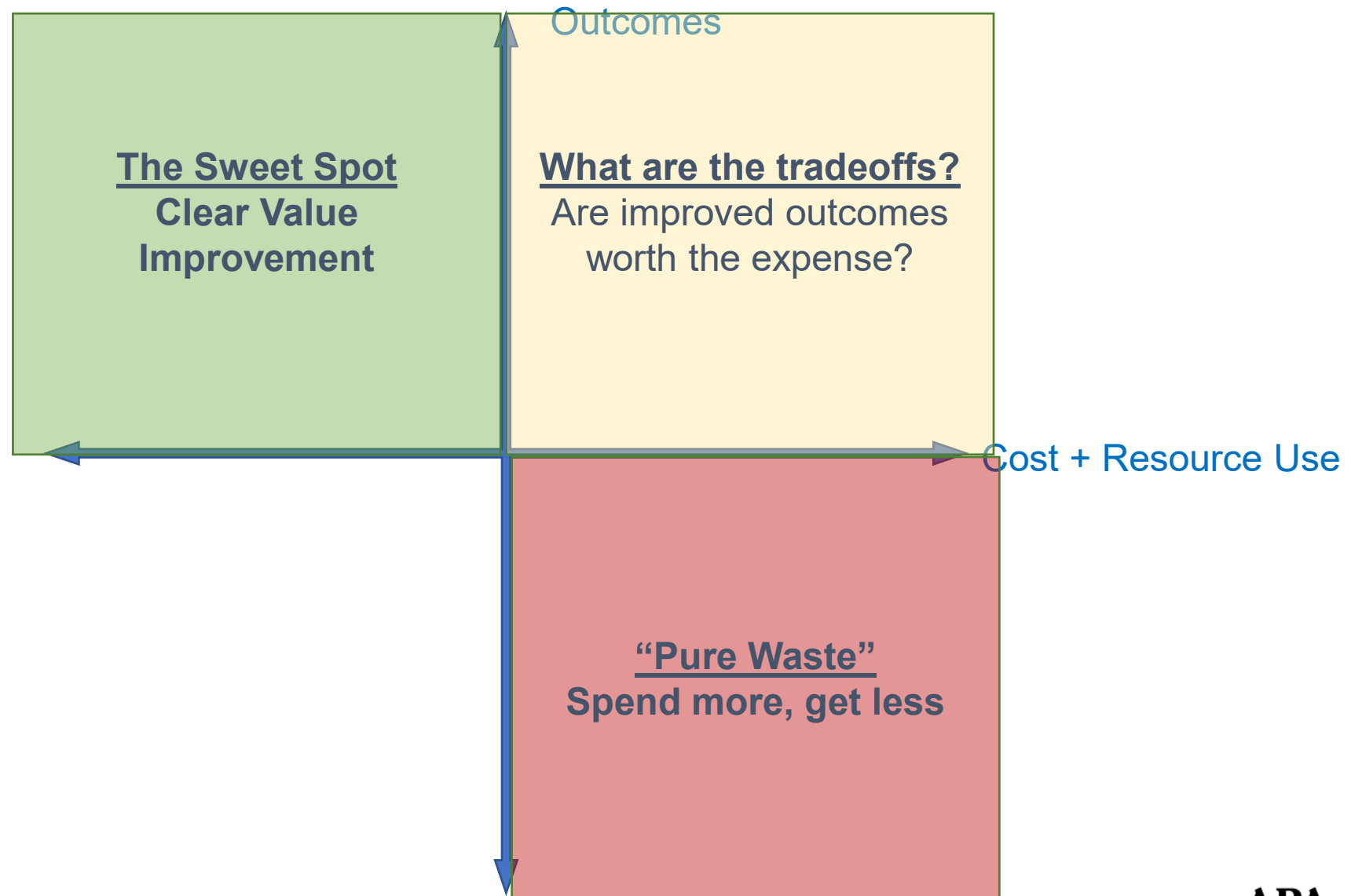
Value measurements for improvement projects

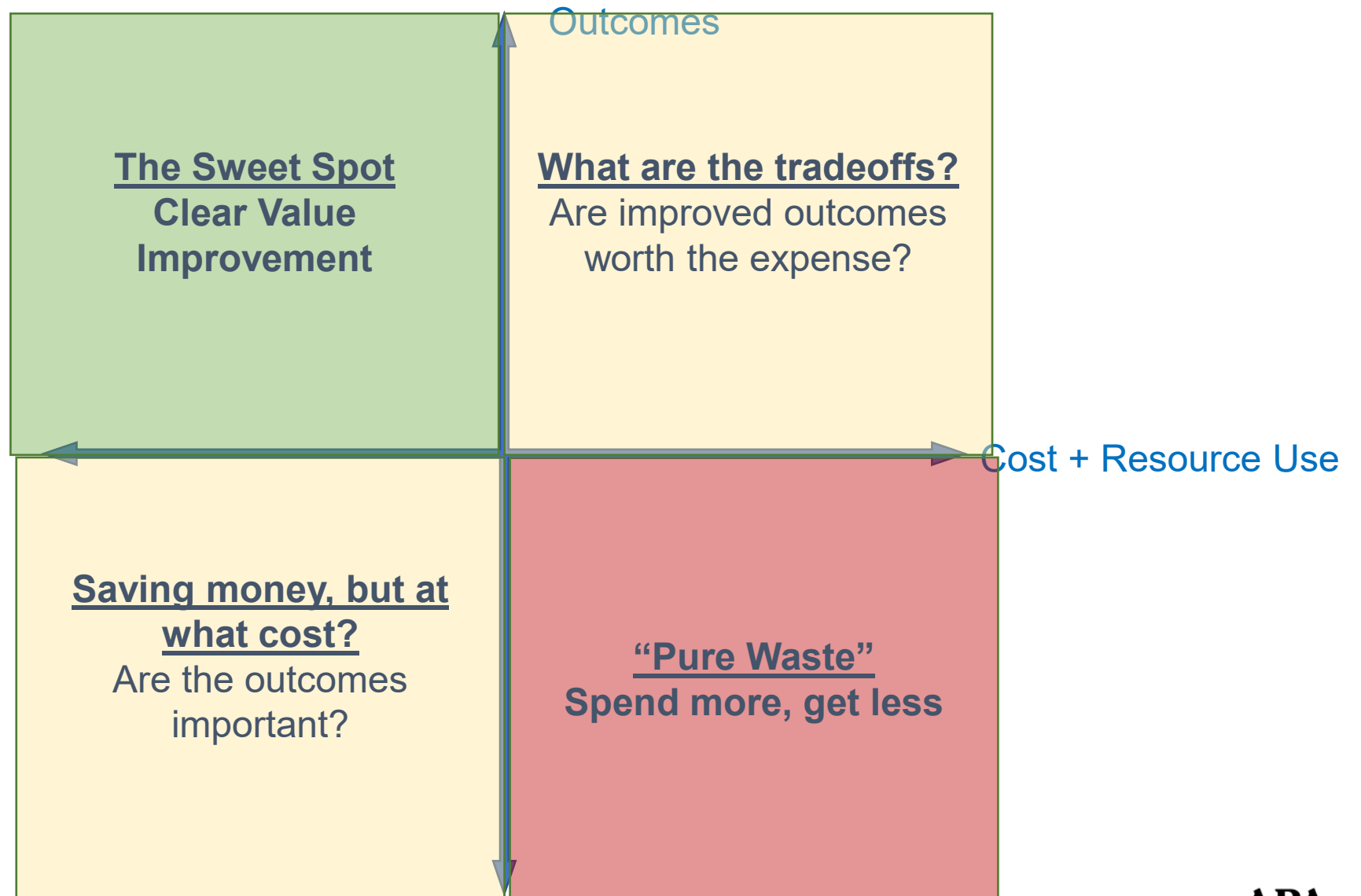
- How do we know we have improved value?
- Find measures that help you understand all/many aspects of the value equation
- Consider the balance and trade-offs

$$\frac{\text{Outcomes} + \text{Patient Experience}}{\text{Cost and Inputs}}$$









Cost as a Measure

- When possible, measure the cost of your interventions and other key steps in your process

How to obtain cost information

- Seek out cost data at your institution's financial teams
- Related networks or databases – Children's Hospital Association – PHIS database
- Cost estimates based on online cost estimators

Example of Cost as a Measure

Leveraging the Outpatient Pharmacy to Reduce Medication Waste in Pediatric Asthma Hospitalizations

Erik R Hoefgen, MD, MS^{1*}, Yemisi Jones, MD², Joshua Courter, PharmD³, Andrew Hare, RRT³,
José A Torres Garcia, MD, MHA⁴, Jeffrey Simmons, MD, MSc²

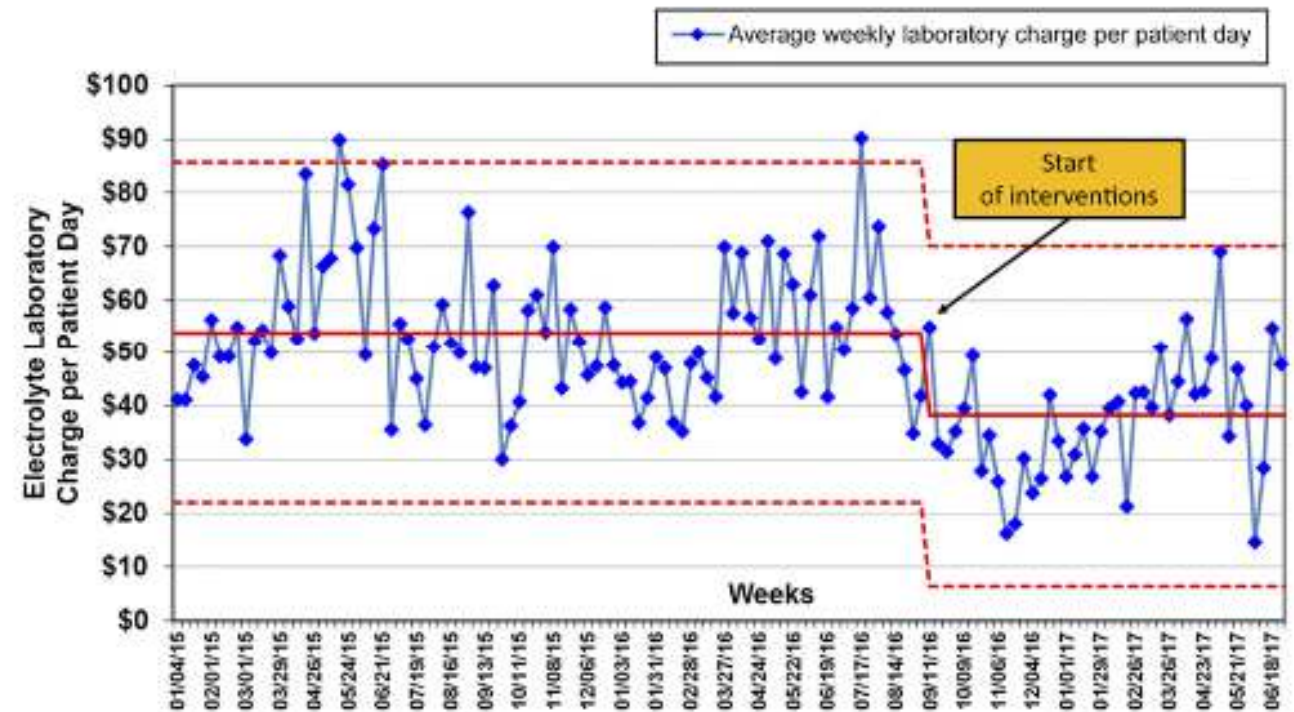
- Using average wholesale price through the pharmacy as a measure of cost reduction
- Change in average cost for inpatient treatment with inhaled corticosteroid: \$236.57 → \$90.25

Alternatives to direct cost measurement

- Using charge as a measure of financial impact

Reducing Electrolyte Testing in Hospitalized Children by Using Quality Improvement Methods

Michael J. Tchou, MD,^{a,b} Sonya Tang Girdwood, MD, PhD,^a Benjamin Wormser, MD,^c Meifawn Poole, DO,^c Stephanie Davis-Rodriguez, MD, MSc,^c J. Timothy Caldwell, MD, PhD,^c Lauren Shannon, CNP, MSN,^a Philip A. Hagedorn, MD,^a Eric Biondi, MD, MSBA,^d Jeffrey Simmons, MD, MSc,^{a,b} Jeffrey Anderson, MD, MBA,^{b,e} Patrick W. Brady, MD, MSc^{a,b}



Measuring resource utilization

- Time-motion studies and activity-based costing
 - Measure hours of utilization for staff

Cidav et al. *Implementation Science* (2020) 15:28
<https://doi.org/10.1186/s13012-020-00993-1>

Implementation Science

CASE STUDY

Christopher J. Donovan
Mike Hopkins
Benjamin M. Kimmel
Stephanie Koberna
Carrie A. Montie

METHODOLOGY

Open Access

A pragmatic method for costing implementation strategies using time-driven activity-based costing

Zuleyha Cidav^{1,2*}, David Mandell^{1,2}, Jeffrey Pyne^{3,4,5,6}, Rinad Beidas^{1,2,7,12,13}, Geoffrey Curran^{8,9,10} and Steven Marcus^{1,2,11}



how Cleveland Clinic used TDABC to improve value

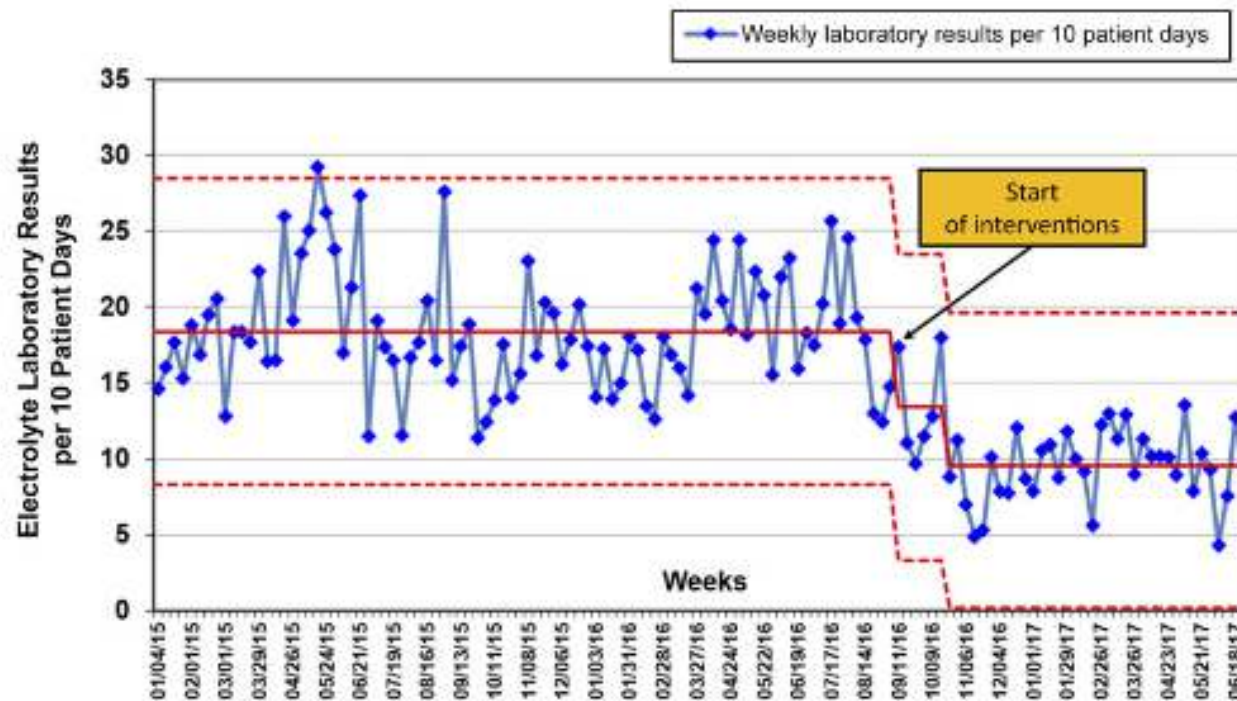
A time-driven activity-based costing pilot project reveals significant opportunities to improve processes of care and reduce costs related to heart-valve surgery.

As hospitals, health systems, and other providers

Recently, Cleveland Clinic partnered with Robert Kaplan, PhD, the Marvin Bower Professor of Leadership Development (emeritus), and Derek Haas, senior project leader, Harvard Business School, to conduct a pilot project to explore the differences between time-driven activity-based costing (TDABC) and the relative value unit

Measuring resource utilization

- Counts of resource utilization events



Measuring Patient Experience

- PROMIS Measures
- Interviews and perspectives

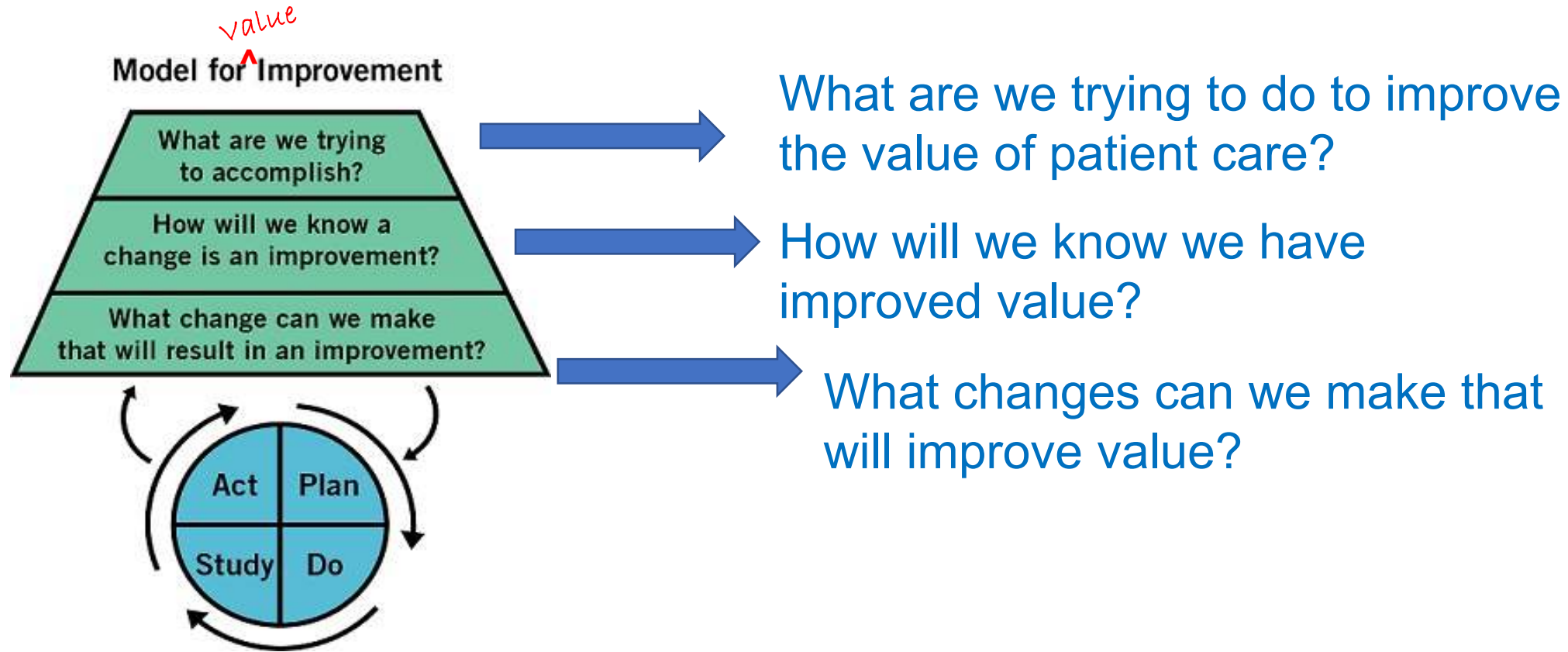
Breakout Group #2

- Identify how you will measure the change in value of your project
- Identify specific definitions of your measures and where data will come from

Planning your Interventions



Model for Value Improvement



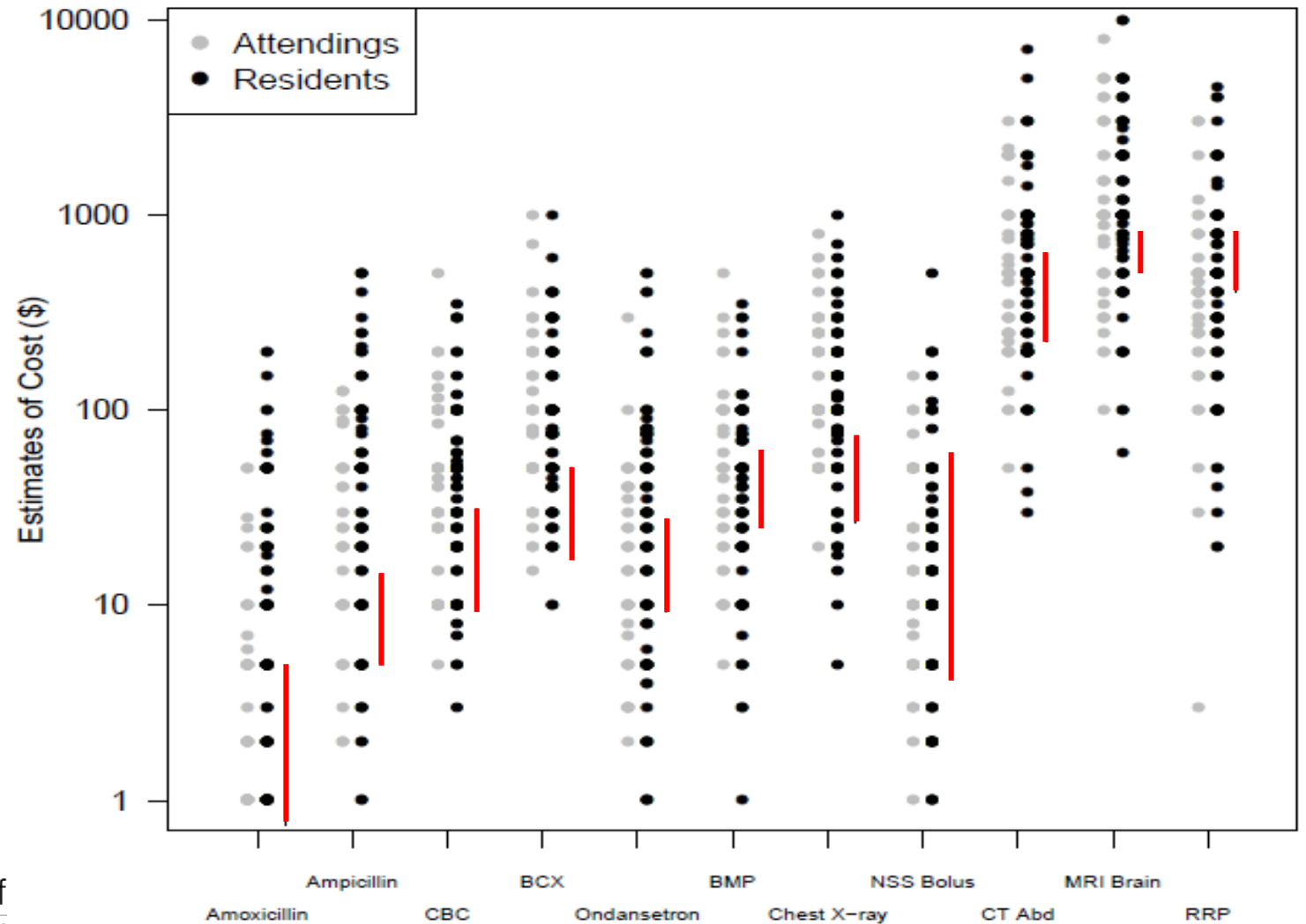


Designing your team's approach to value improvement

- What key drivers support the current low-value practice?
- What interventions may be effective at reducing low-value care?
- What steps in the current process are causing the most low-value care and key for value improvement?

Mixed Data on Impact of Cost Knowledge

- Physicians have poor understanding of relative healthcare costs



Mixed Data on Impact of Cost Knowledge

- Exposure to cost data doesn't always change practice

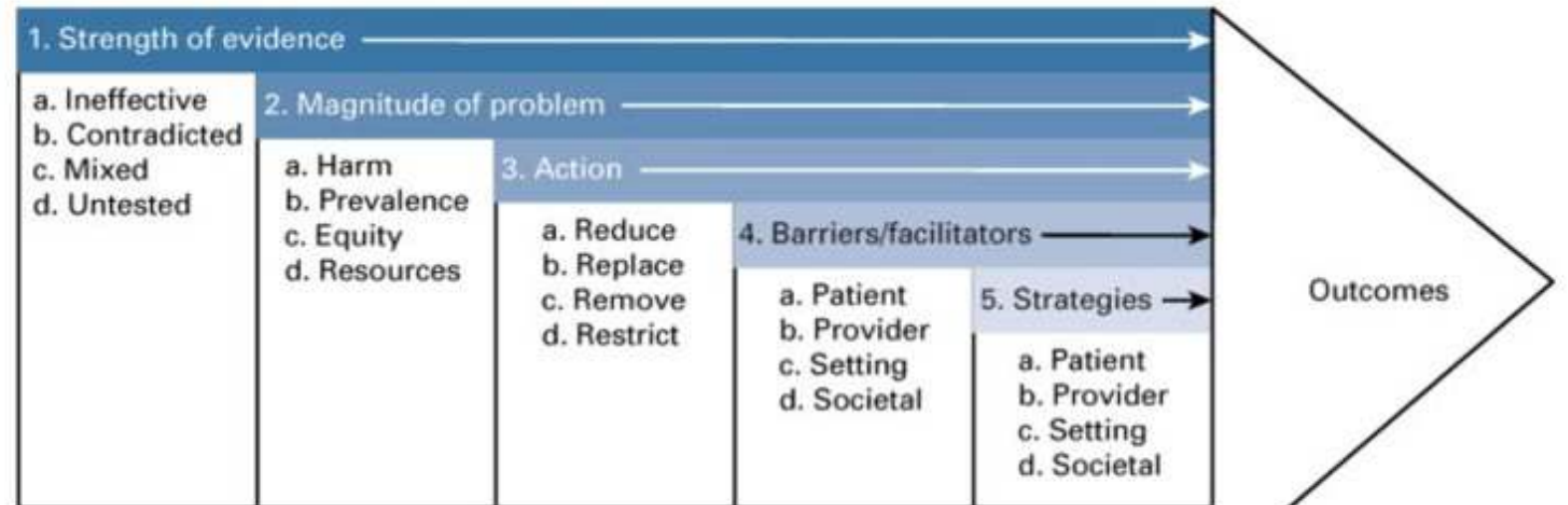
 **TheUpshot**

THE NEW HEALTH CARE

There's No Magical Savings in Showing Prices to Doctors

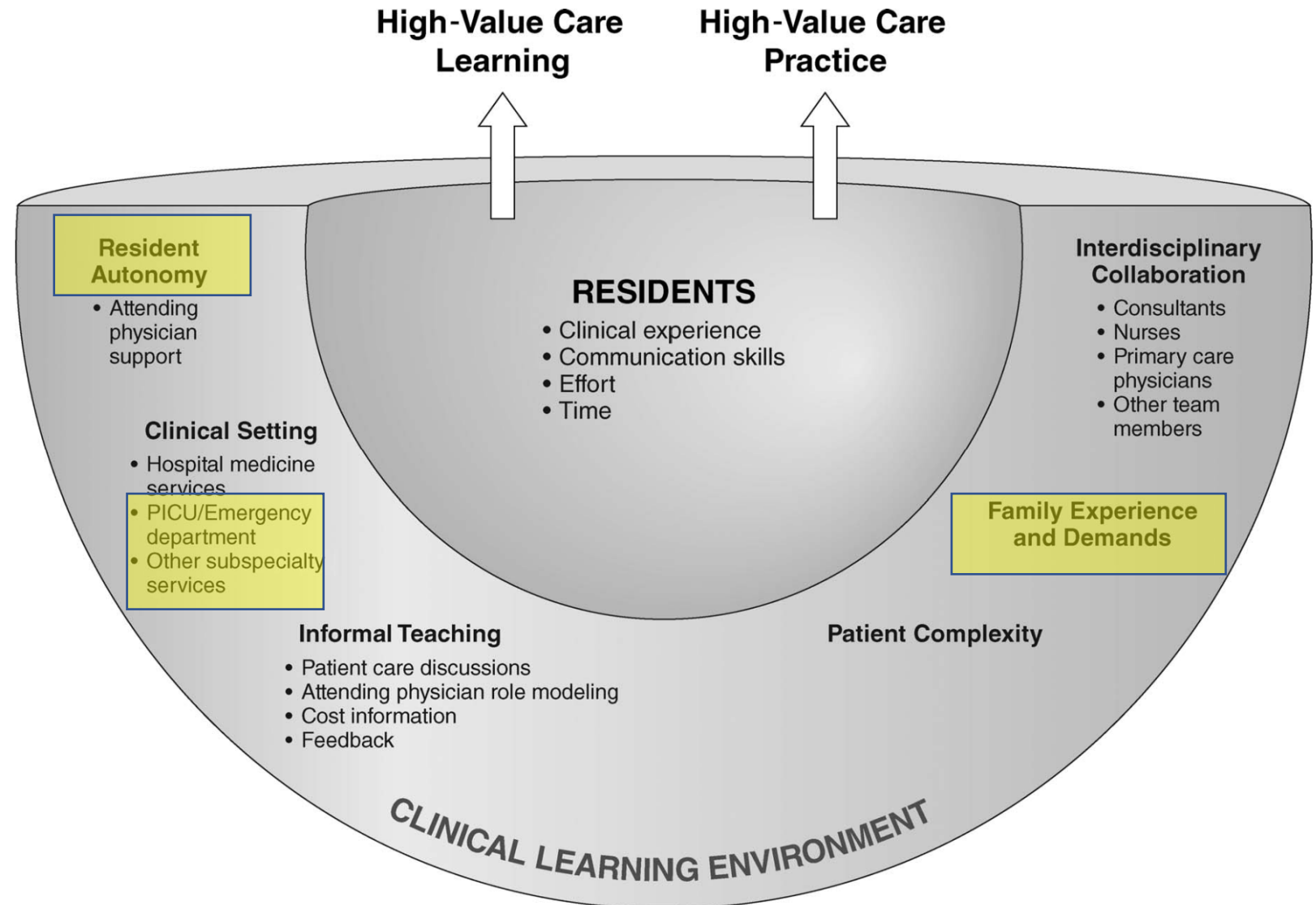
De-implementation Science

A lot depends on
what you are
de-implementing



Pediatric Residents' Experiences With High-Value Care at an Academic Children's Hospital

L. Barry Seltz^{MD}, MD
Emma Nathaniel, MD
Alexis Ball, MD
Sheilah Jimenez
Michael Tchou, MD, MSc



Breakout Group #3

- Map out key drivers of each aspect of value that affect your SMART aim
- OR Draft interventions that may bend the value curve for your project

Expanded Value Improvement Systems

- Value Improvement can occur on an organizational scale

JAMA | **Original Investigation** | INNOVATIONS IN HEALTH CARE DELIVERY

Implementation of a Value-Driven Outcomes Program to Identify High Variability in Clinical Costs and Outcomes and Association With Reduced Cost and Improved Quality

Vivian S. Lee, MD, PhD, MBA; Kensaku Kawamoto, MD, PhD, MHS; Rachel Hess, MD, MS; Charlton Park, MBA, MHSM; Jeffrey Young, MS; Cheri Hunter, BS; Steven Johnson, LSMBB, MBA; Sandi Gulbransen, BSIE; Christopher E. Pelt, MD; Devin J. Horton, MD; Kencee K. Graves, MD; Tom H. Greene, PhD; Yoshimi Anzai, MD, MPH; Robert C. Pendleton, MD

Bending the cost curve: time series analysis of a value transformation programme at an academic medical centre

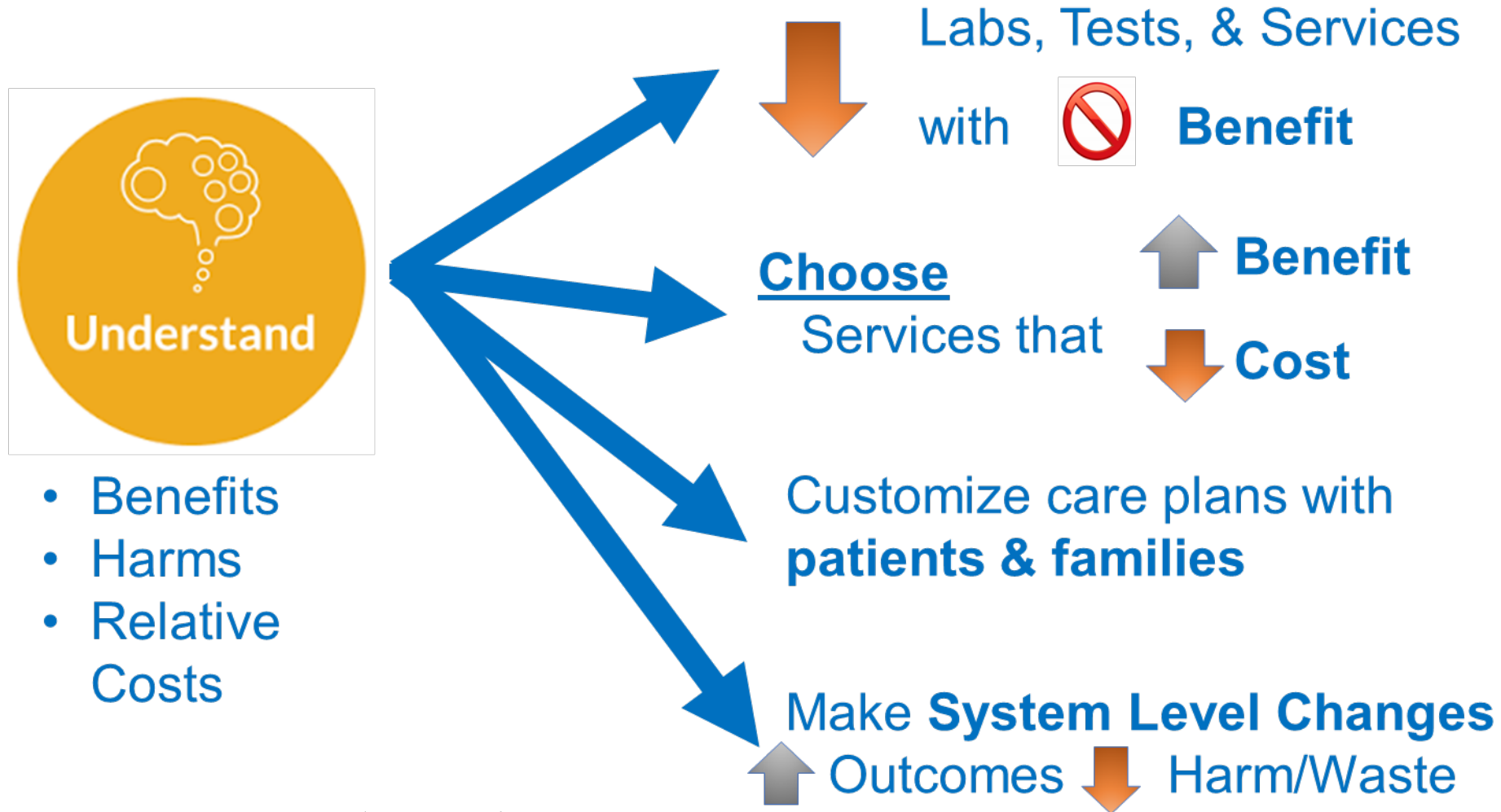
Steven C Chatfield,¹ Frank M Volpicelli,² Nicole M Adler,² Kunhee Lucy Kim,^{3,4} Simon A Jones,^{3,4} Fritz Francois,^{1,5} Pares C Shah,^{1,6} Robert A Press,^{1,7} Leora I Horwitz^{2,3,4}

Expanded Value Improvement Systems

- Value Improvement can occur through multi-hospital networks



How to *Achieve* High Value Care



Closing

- Value is an important concept to apply to improvement work
- The value equation can guide you in developing improvement projects


HVC Resources

- Scan the QR code in your toolkit with your phone camera to link to further resources on HVC
- If you find resources not on this list, please email them to Mike or any workshop presenter and he can add them

Thank you and evaluation

The link here can be used to evaluate the workshop
Reach out anytime with questions!



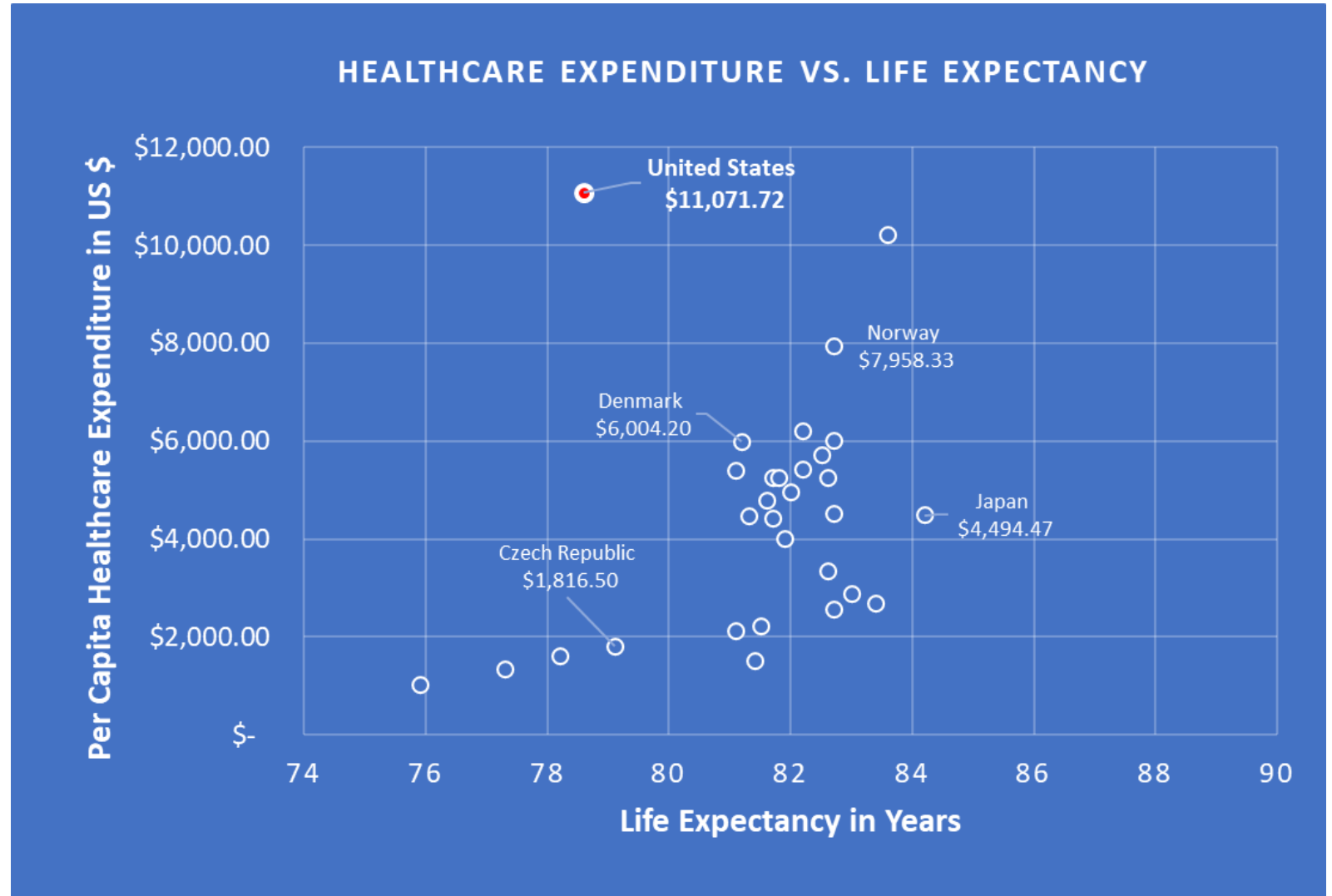
- Mike Tchou  @TchouMD, michael.tchou@childrenscolorado.org
- Leigh-Anne Bakel - leighanne.bakel@childrenscolorado.org
- Kaitlin Widmer – kaitlin.widmer@childrenscolorado.org
- Lilliam Ambroggio – lilliam.ambroggio@childrenscolorado.org
- Justin Lockwood – justin.lockwood@childrenscolorado.org
- Jillian Cotter – jillian.cotter@childrenscolorado.org
- Mark Brittan – mark.brittan@childrenscolorado.org
- Amy Tyler – amy.tyler@cuanschutz.edu

Appendix



Background

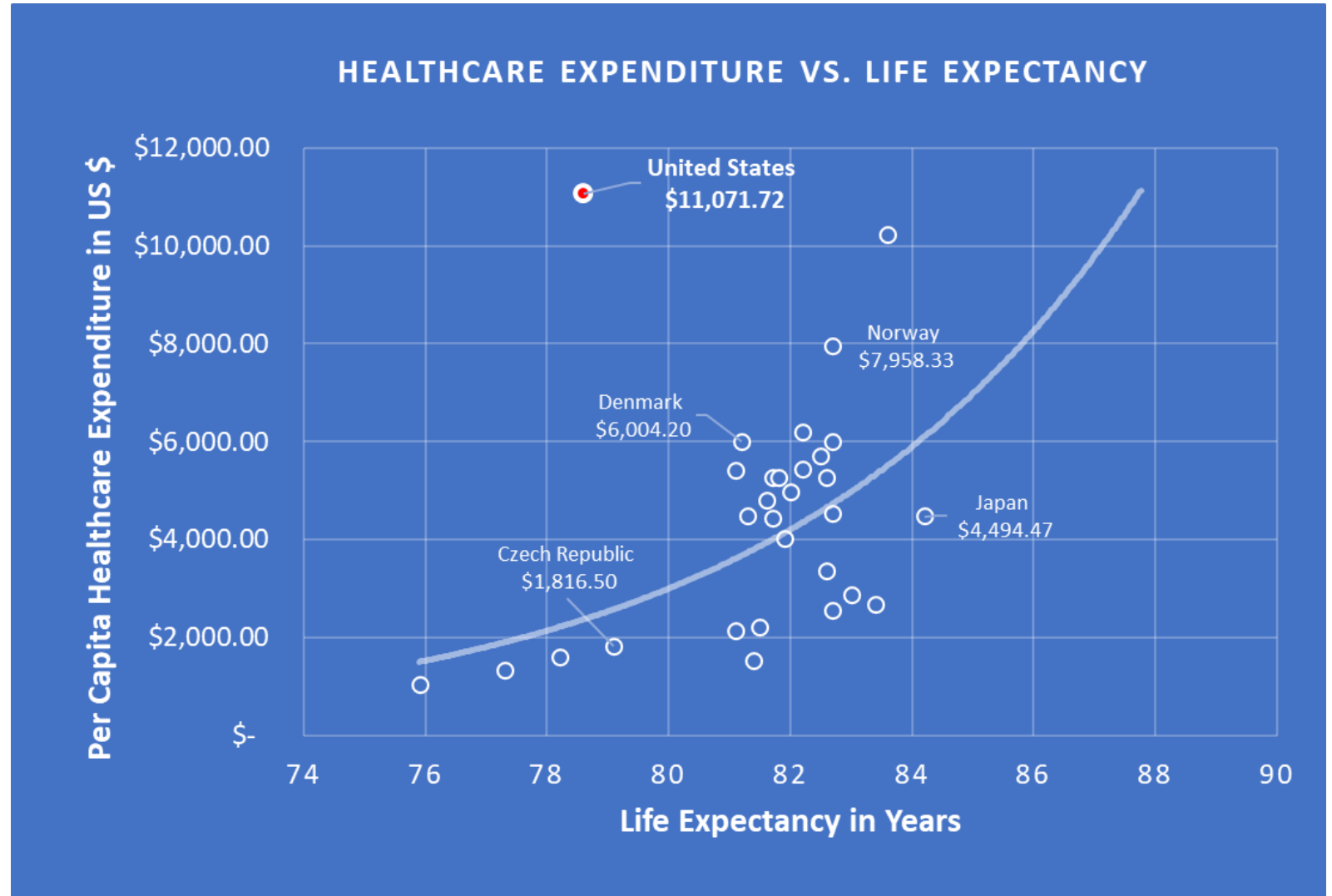
- Compared to similar countries, we spend much more per person
- And have worse outcomes



OECD, 2020 Health Statistics Data, www.oecd.org

Background

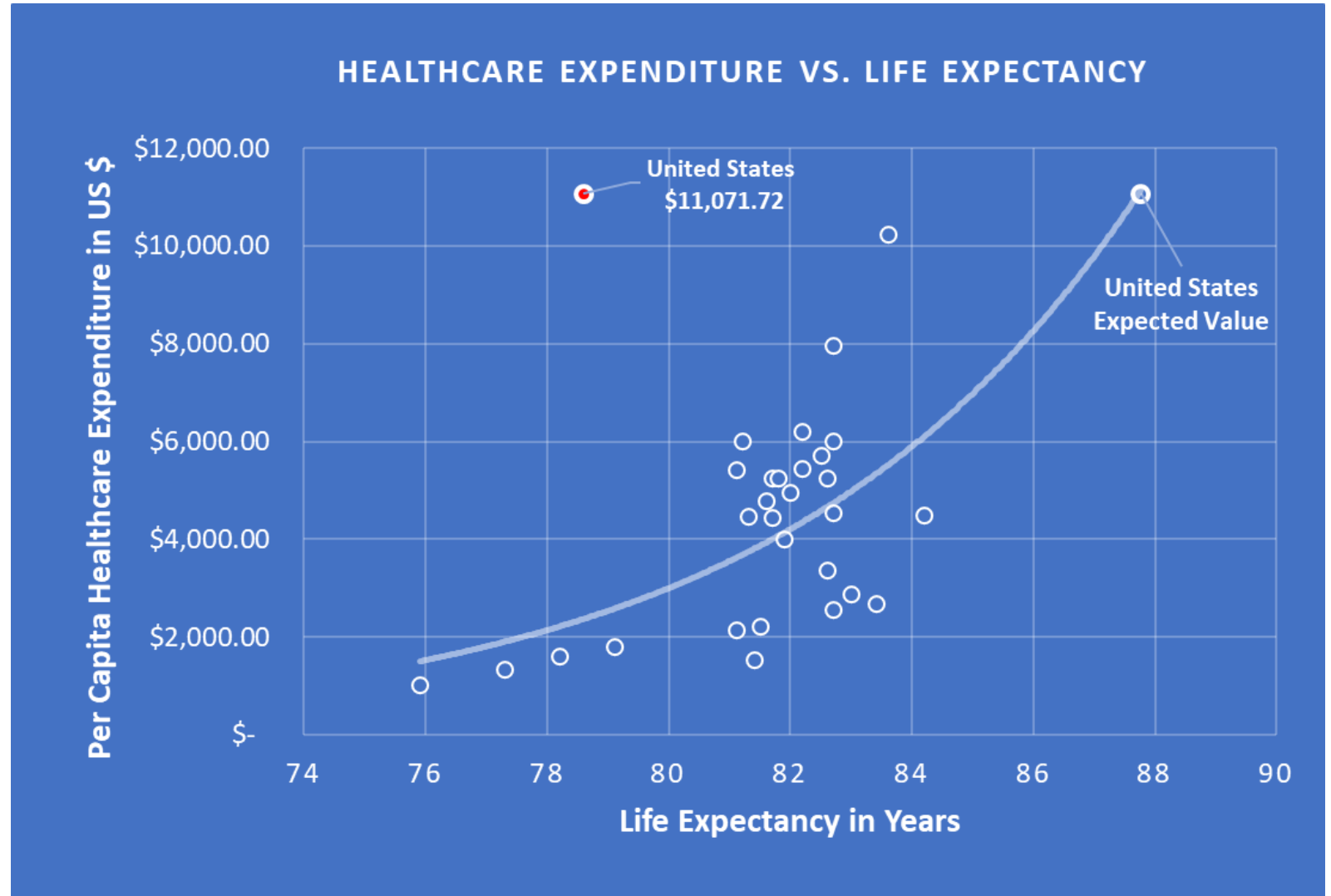
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OECD, 2020 Health Statistics Data, www.oecd.org

Background

- Compared to similar countries, we spend much more per person
- And have worse outcomes



OECD, 2020 Health Statistics Data, www.oecd.org

What can we do?

- Yes this is important, but how can I, as one provider, fix this?
- Isn't this just a healthcare policy problem?

~20-30% of wasted spending is related to low-value clinical decisions



We will need clinicians trained to understand value to lead future systems changes



High-Value Care Resources

- Choosing Wisely Initiative
 - >100 pediatric specific recommendations
- AAP Guidelines (and other professional pediatric organizations)
- High-value Practice Academic Alliance
 - PedsValue subgroup

Deimplementation Science

- Increasing focus on deimplementation science as a method to understand strategies to tackle waste and overuse

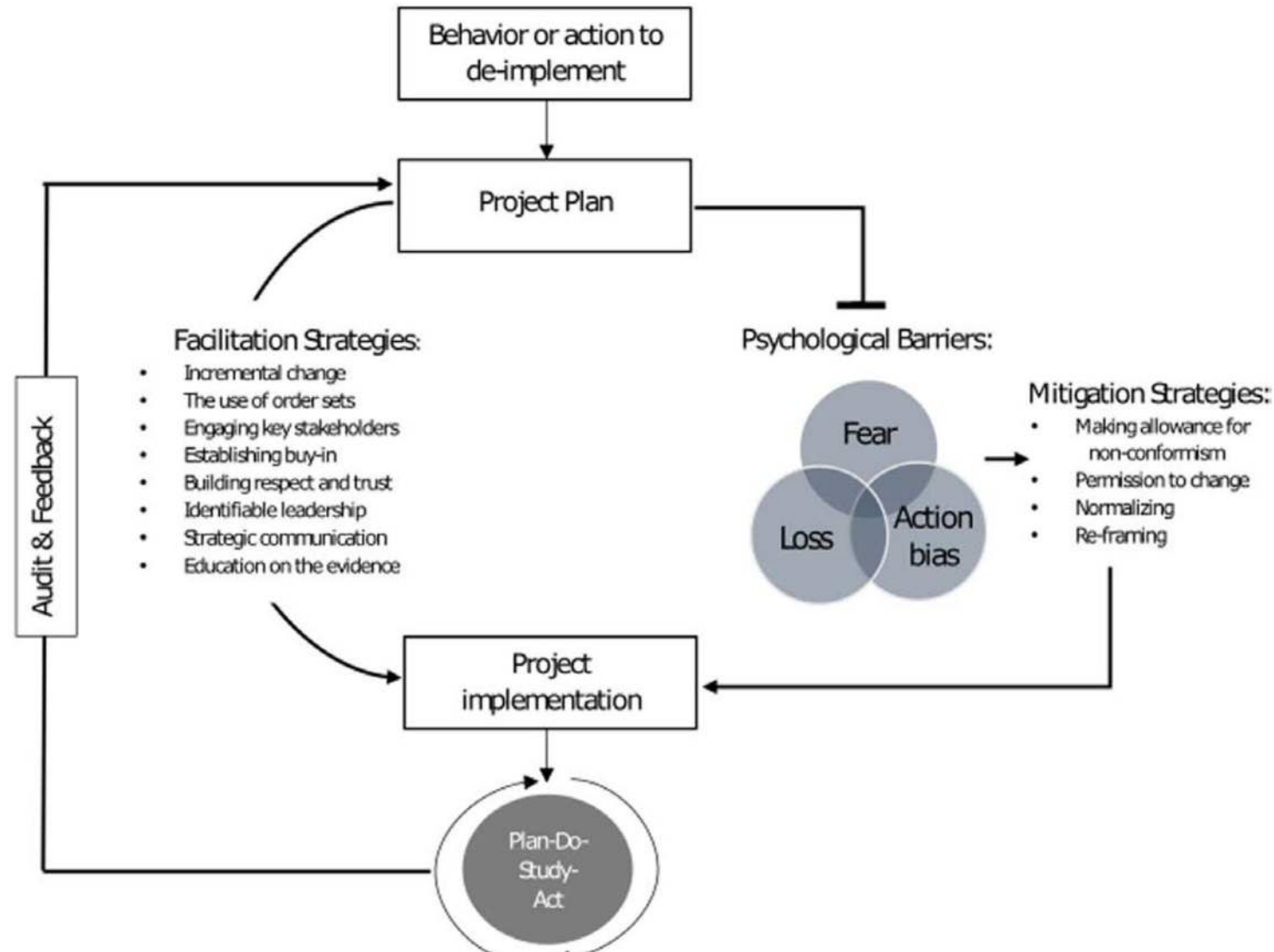
Unpacking the complexities of de-
implementing inappropriate health
interventions

Wynne E. Norton* and David A. Chambers

Challenges to Deimplementation

Behavioral and Psychological Aspects of the Physician Experience with Deimplementation

Corrie E. McDaniel, DO*; Samantha A. House, DO, MPH†; Shawn L. Ralston, MD, MS*



Educational Strategies and Tools

- Cost Calculators
- Case Conferences that focus on risks of overuse
- Simulating conversations with families about value
- Incorporating value into QI education / projects for residents

Informal and Hidden Curriculum

- How can we shape informal and hidden curricula?
- Build Infrastructure around value
- Faculty development

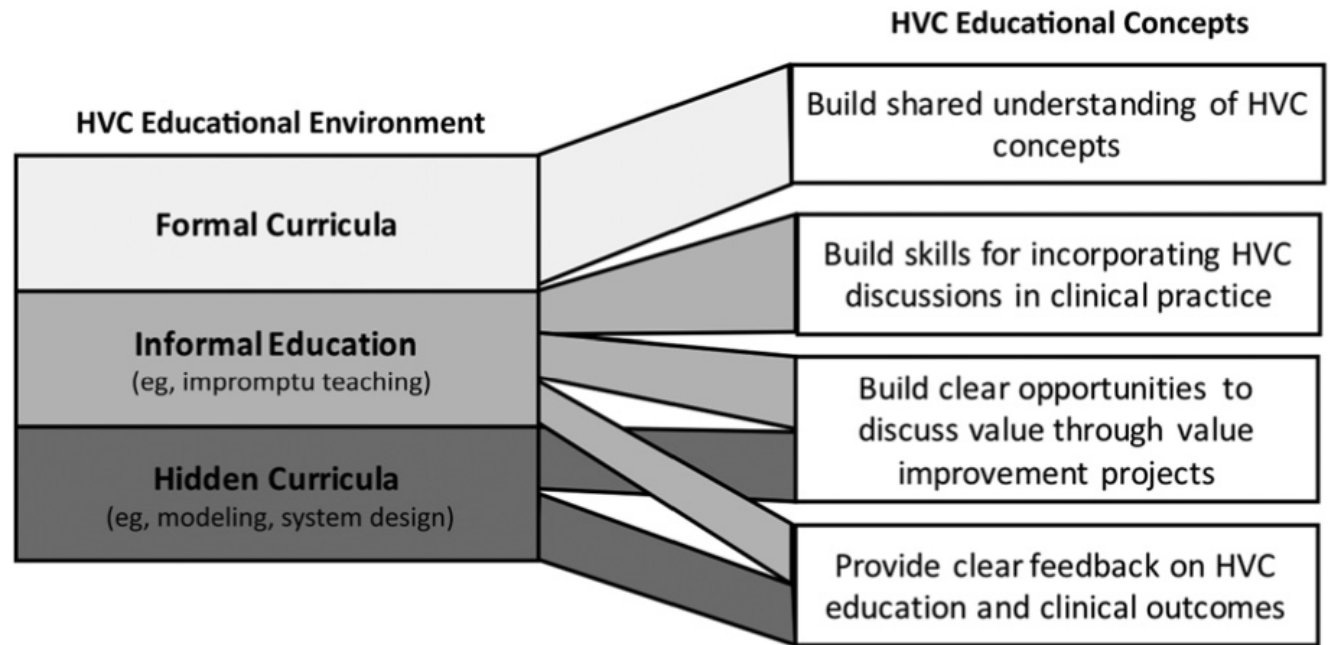


FIGURE 1 Multilevel educational interventions and their relationship to formal, informal, and hidden curricula. HVC, high-value care.

Culture of Value

Swimming Upstream: Creating a Culture of High-Value Care

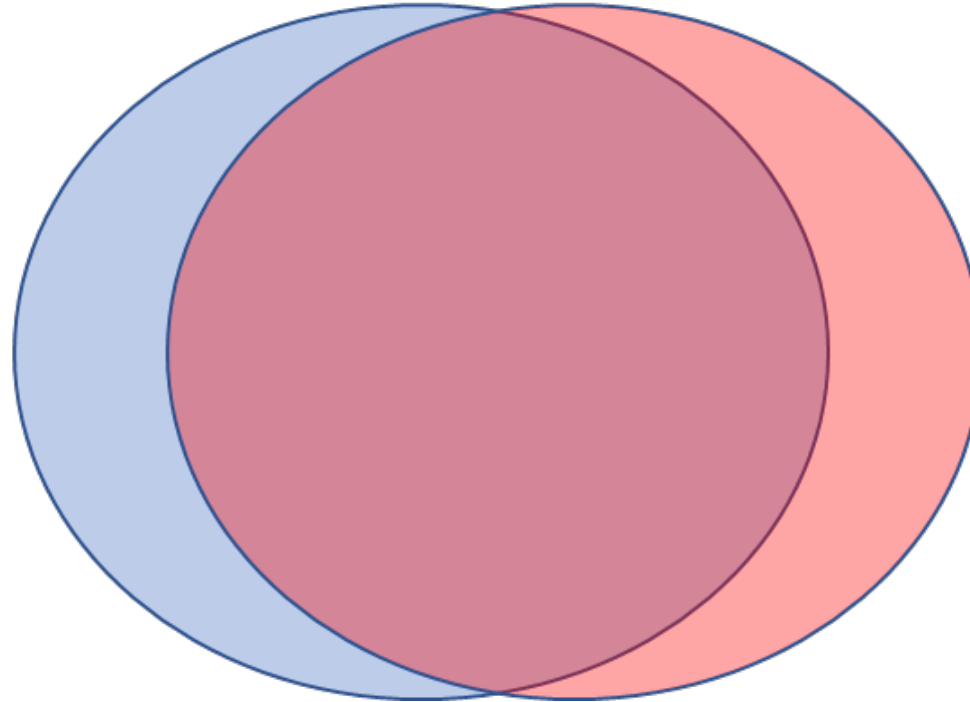
Reshma Gupta, MD, MSHPM, and Christopher Moriates, MD

- 4 principles
 - Build will to change
 - Create infrastructure to support value improvement
 - Expose physicians to value-based payment models
 - Demonstrate commitment to shared goals

Overlap between QI and VI

Value improvement

Quality improvement



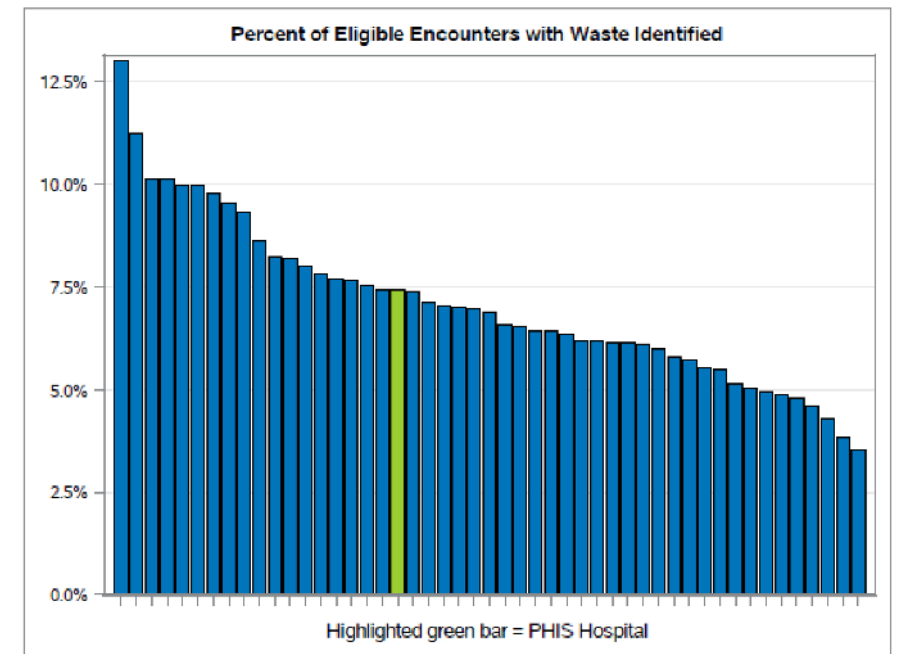
PHIS Low-Value Care Calculator

Original Investigation | Pediatrics

Development and Use of a Calculator to Measure Pediatric Low-Value Care Delivered in US Children's Hospitals

Samantha A. House, DO, MPH; Matthew Hall, PhD; Shawn L. Ralston, MD, MS; Jennifer R. Marin, MD, MSc; Eric R. Coon, MD, MS; Alan R. Schroeder, MD; Heidi Gruhler De Souza, MPH; Amber Davidson, RHIT, CCS, CCS-P; Patti Duda, BS; Timmy Ho, MD, MPH; Marquita C. Genies, MD, MPH; Marcos Mestre, MD; Mario A. Reyes, MD

30 low value care
measures compared
across PHIS hospitals



Is pediatrics a low-cost specialty?

- Child healthcare spending in the US is more than the GDP of Portugal
- 56% rise in pediatric healthcare spending from 1999-2013

