# Sustainable Physician Engagement

12/8/2019

Michael van Duren MD, MBA

# Key Learning Objectives:

- How to confidently incorporate unblinded peer comparisons, curated recent case reviews, and group reflections on practice variation to accelerate learning, drive quality improvement, and reduce waste
- Avoid common pitfalls of individual physician feedback (e.g., dubious attribution, severity adjustment, unactionable data)
- Return with real-world practices to sustainably reduce unwarranted utilization of relevant tests, devices, procedures, consults, etc. by 20-50% or more!

# Introduction – Setting the Stage

# Background, current role, and experience

## MICHAEL VAN DUREN MD, MBA

Chief Medical Officer at Bay Area Hospital

- 3 Health Plans x 10 yrs
- IPA of 2,000 physicians x 3 yrs
- 24 hospital system of 5,000 physicians x 9 yrs
- > 1,000 meetings with physicians
- Saved > $10M in reduced healthcare spend

# Disclosure

We will be discussing analytics for clinical variation reduction, sharing results and impact achieved in the course of my consulting work

Ownership interest in Variation Consulting Group, LLC. with relevant clients including

- California Healthcare Foundation
- California Quality Collaborative
- Optum
- Agathos, Inc

# Francis J. Crosson, MD

The Commonwealth Fund

**Change the Microenvironment: Delivery System Reform Essential to Controlling Costs**

April 27, 2009

Commentary on The Commonwealth Fund/Modern Healthcare Health Care Opinion Leaders Survey on Priorities for the Obama Administration by Francis J. Crosson, senior fellow at the Kaiser Permanente Institute for Health Policy

*The cascade of resource use that flows from the decisions physicians make accounts for more than 80 percent of overall health care costs.*

# Physician driven variation

Physician decisions and orders are the most significant drivers of healthcare costs: lab tests, imaging tests, level of care, treatment choices, timing/sequencing of care

There is significant variation in these decisions, unrelated to patient factors. This **variation is physician driven** - through idiosyncrasies of  varied training, different past patient experiences, and personal style.

This “unwarranted” variation also points to an opportunity for reducing “waste” in healthcare resource use. **If the high resource users can practice more like the low resource users, the same outcomes can be achieved at a lower cost.**

**There is a way that we can make this happen…**

# False beliefs about physicians' motivation for change

# Instead, we will show you examples of:

1. Vitamin D lab test ordering reduced
2. Thyroid testing labs reduced
3. Reduced used of daily labs
4. Less transfusions in Ortho
5. On time start in the OR improved
6. Less CT scans in ED
7. Discharge orders written on time
8. Reduced comprehensive metabolic panel
9. Reduced opioid use

# How to get physicians' attention and facilitate change

Gleicher/Dannemiller theory of change

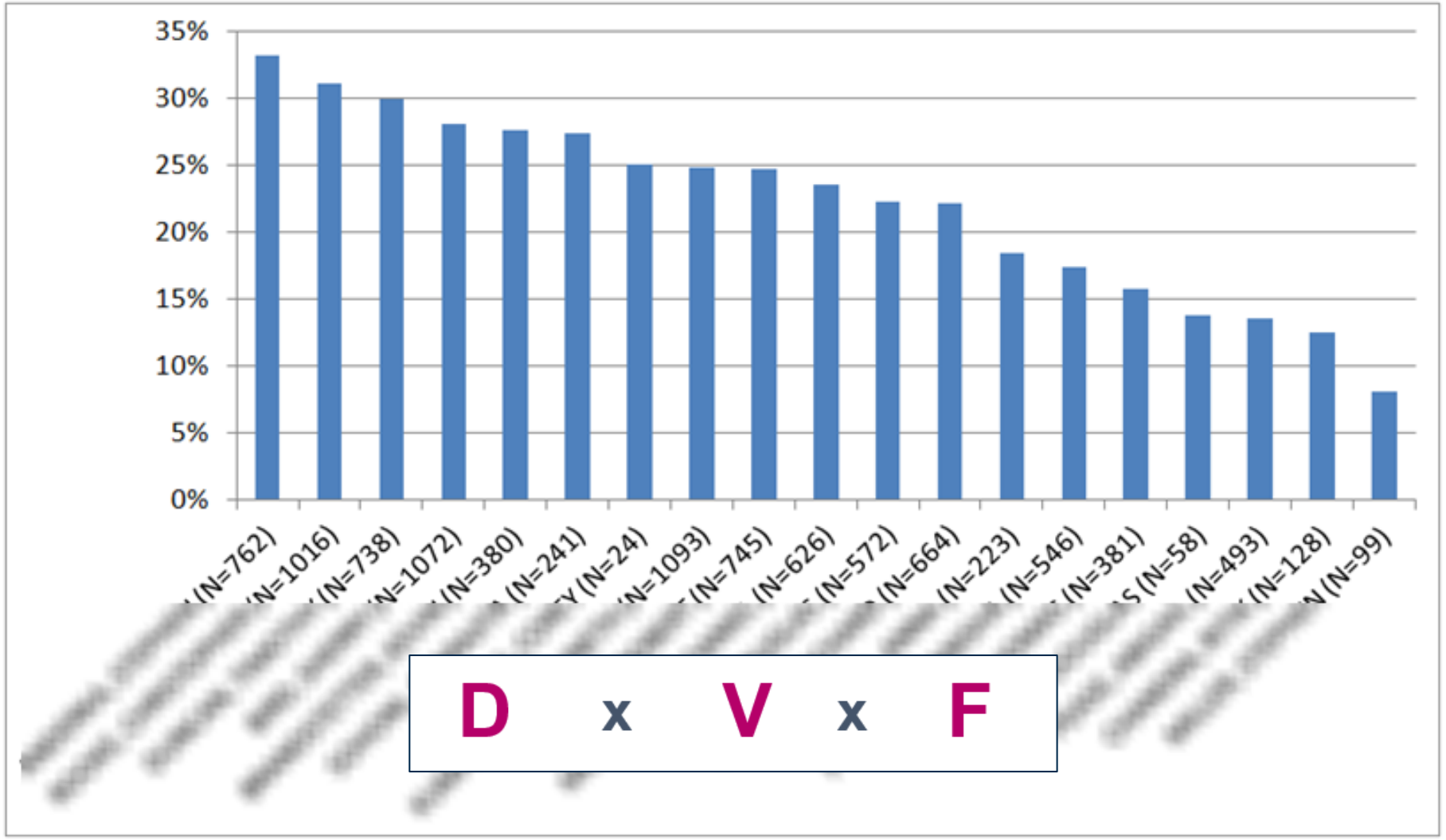
**D x V x F > R**

**Dissatisfaction with Present (Burning Platform)** | **Vision of the Future** | **Realistic First Steps** | **Resistance to Change**

***All elements of the formula must be present in order to overcome resistance to change***

# Data presented to ED physicians

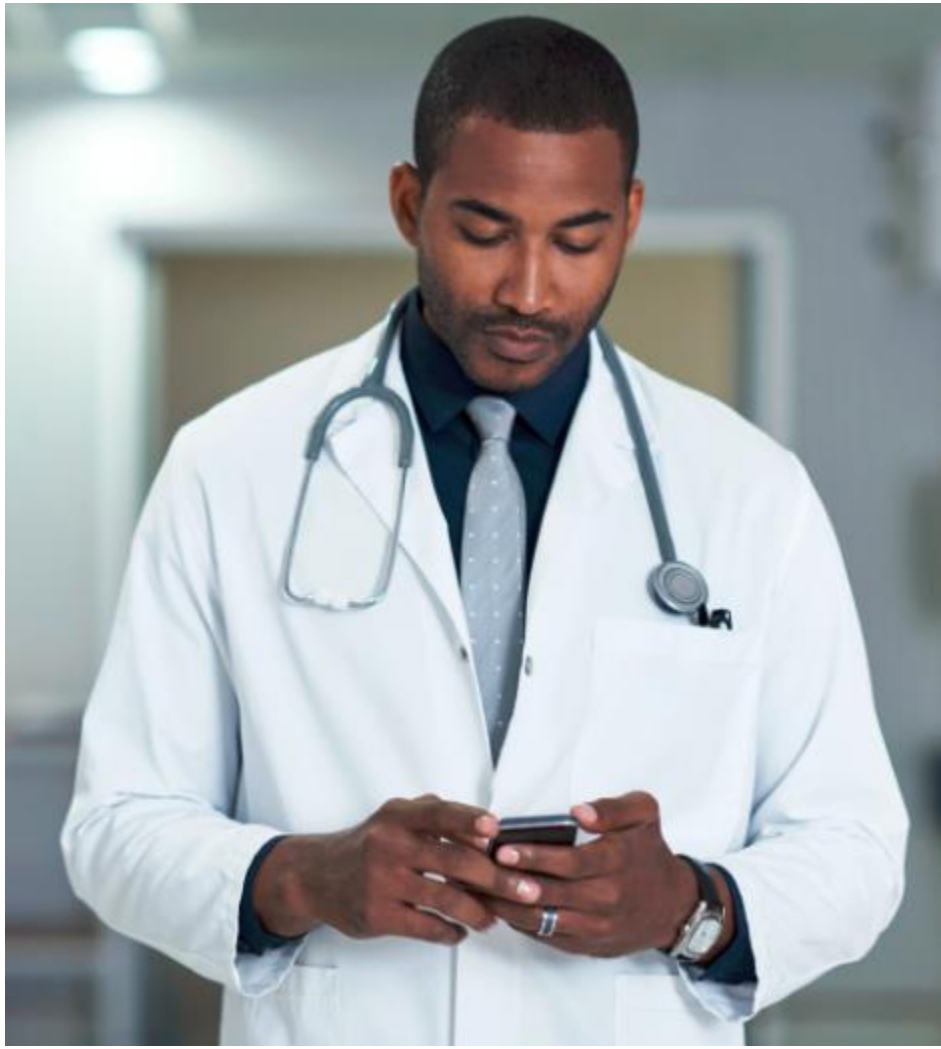
## Percent of patients who received CT scan in ED



# Peer comparison with unblinded names

## SUCCESS FACTORS

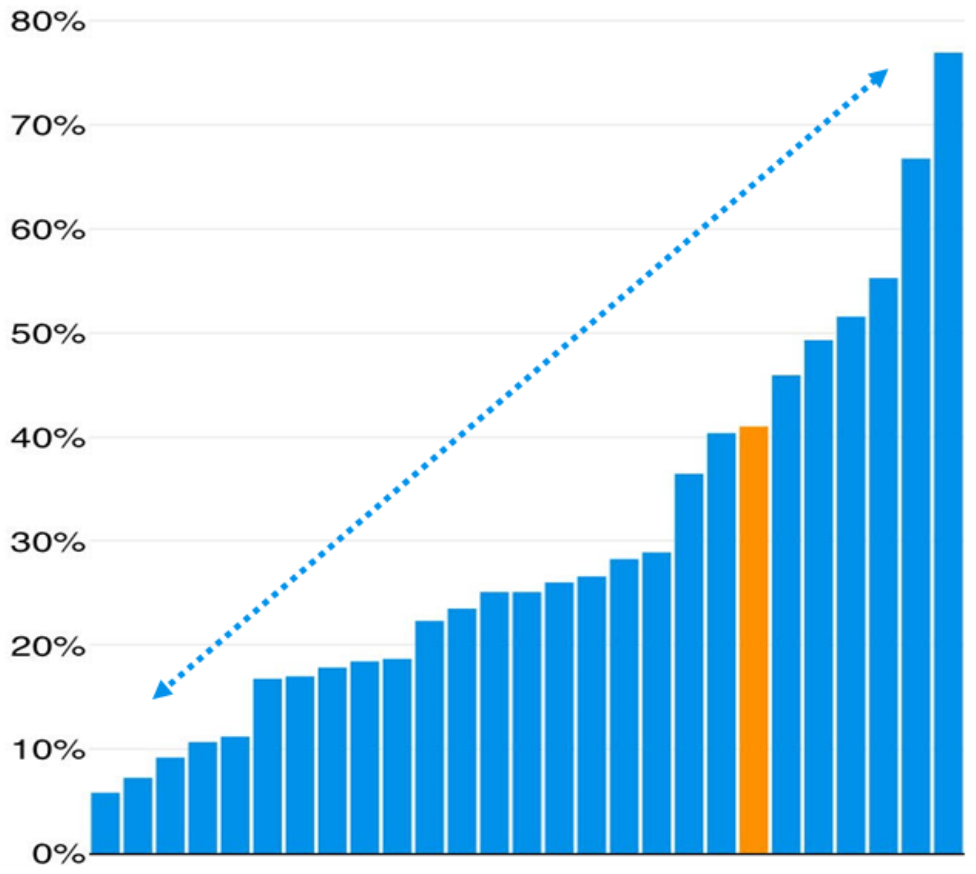
| | |
|---|---|
| Very compelling because of curiosity and competitiveness | A source of stress!! (but this creates openness to need for change) |
| One of the few sources of meaningful feedback (if what is measured is ‘actionable’ and attribution is perfect) | A tool to allow actual improvement (positive deviance) |



# Peer comparison - unblinded

- Simple visualization
- Clear metric
- One message
- Rank order
- Names visible
- No words necessary
- Message is obvious

**Discharge Order Written by 10 AM**



# Unblinded names?

## Pros

- Drives curiosity, engagement
  - Not something to ignore
  - Worth a few minutes of my time
- Peer comparison triggers competition
  - I want to do better
  - I am shocked I am below average
- Also concern about reputation
  - What will they think of me?
  - Who else will see this data?
- Role models are identified
  - I know which of my peers I respect
  - I can ask them how they do it

## Cons

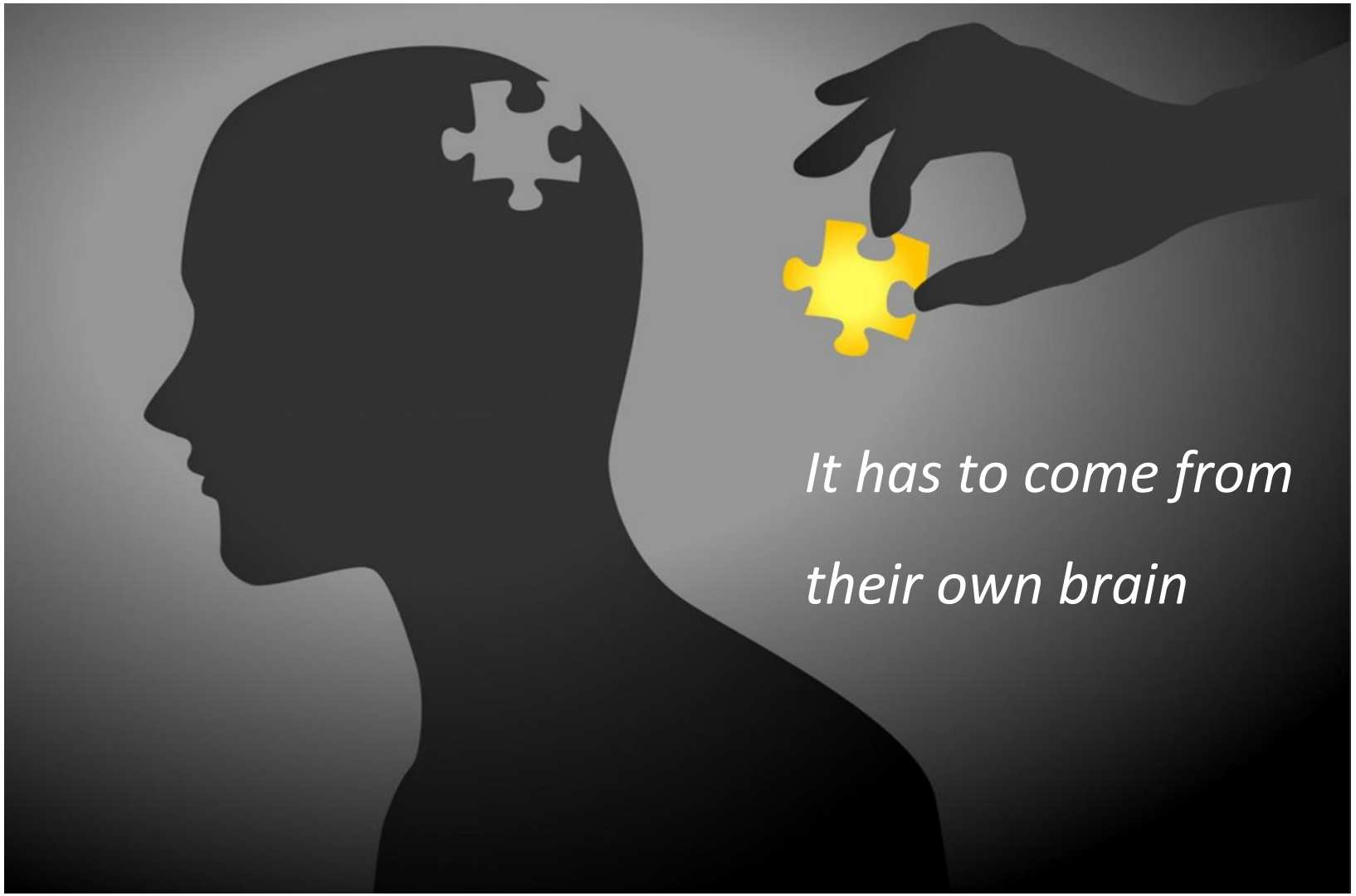
- Requires safe, trusting environment
  - Avoid defensiveness, anger, resentment
  - Handle data respectfully
- Thoughtful and careful approach
  - Gentle exposure among peers
  - Avoid broad exposure outside peers
- Sometimes, the timing is not right
  - Avoid adding fuel to the fire

# Adult Learning

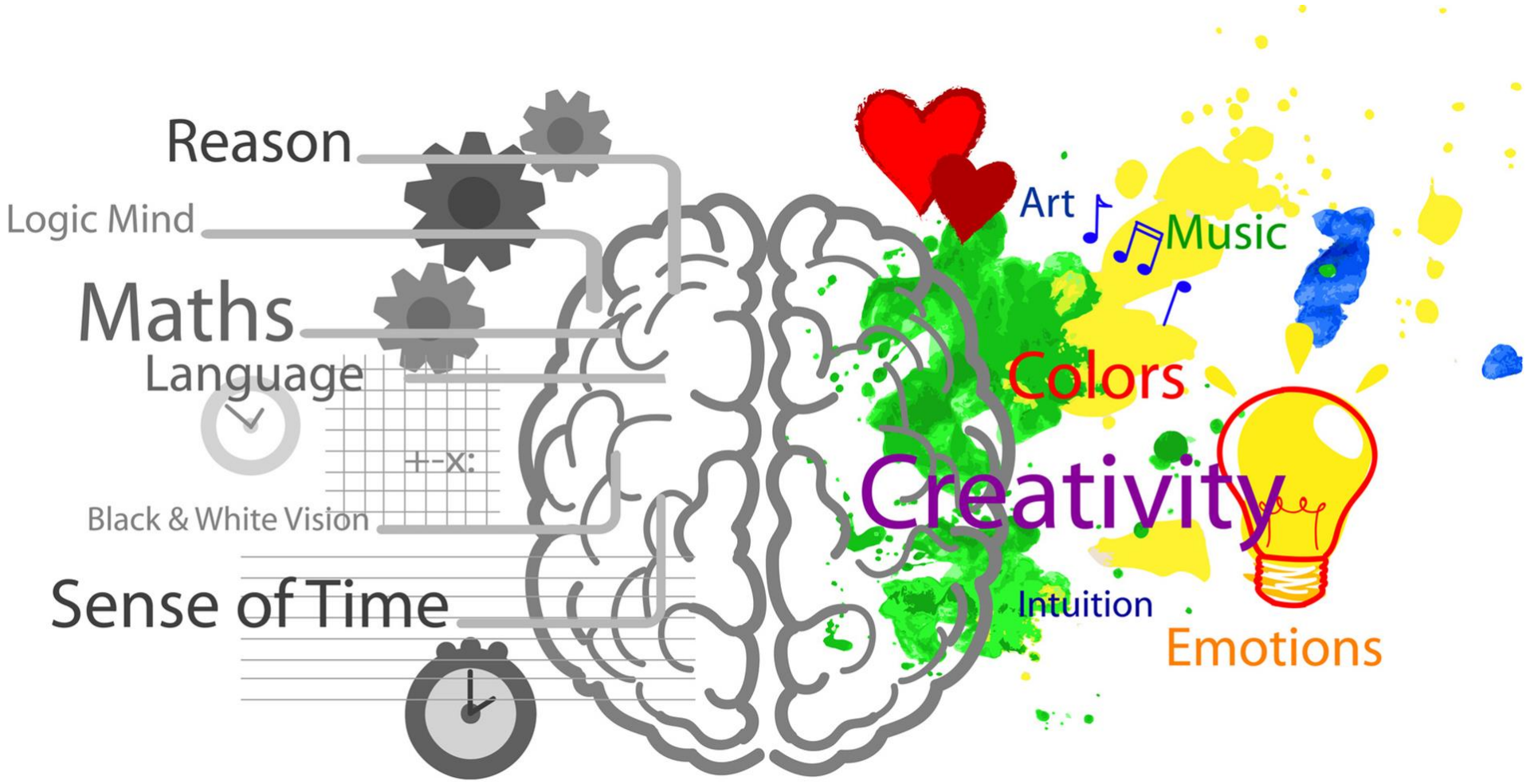
# Adult learning: "Top down" vs. AHA!

# Adult learning: “Top down” vs. AHA!

# How to convince someone to change their behavior?



# Left Brain vs Right Brain



# Left Brain vs Right Brain

| Left Brain | Right Brain |
| --- | --- |
| Frontal / Cognitive | Amygdala / Limbic system |
| Thinking Slow | Thinking Fast |
| Thinking | Feeling |
| Analytics | Emotions |

Typical Physician Discussion

2 second opportunity to change behavior

# Why are we talking about emotions?

The way I practice currently is right – no need for change

No change needed
Mind Closed

How much time?

The way I practice might not be right – perhaps I should change

Curious about change
Mind Open

# Left Brain vs Right Brain: methods of persuasion

**Left Brain**

Science & Data

Logic, studies, stats

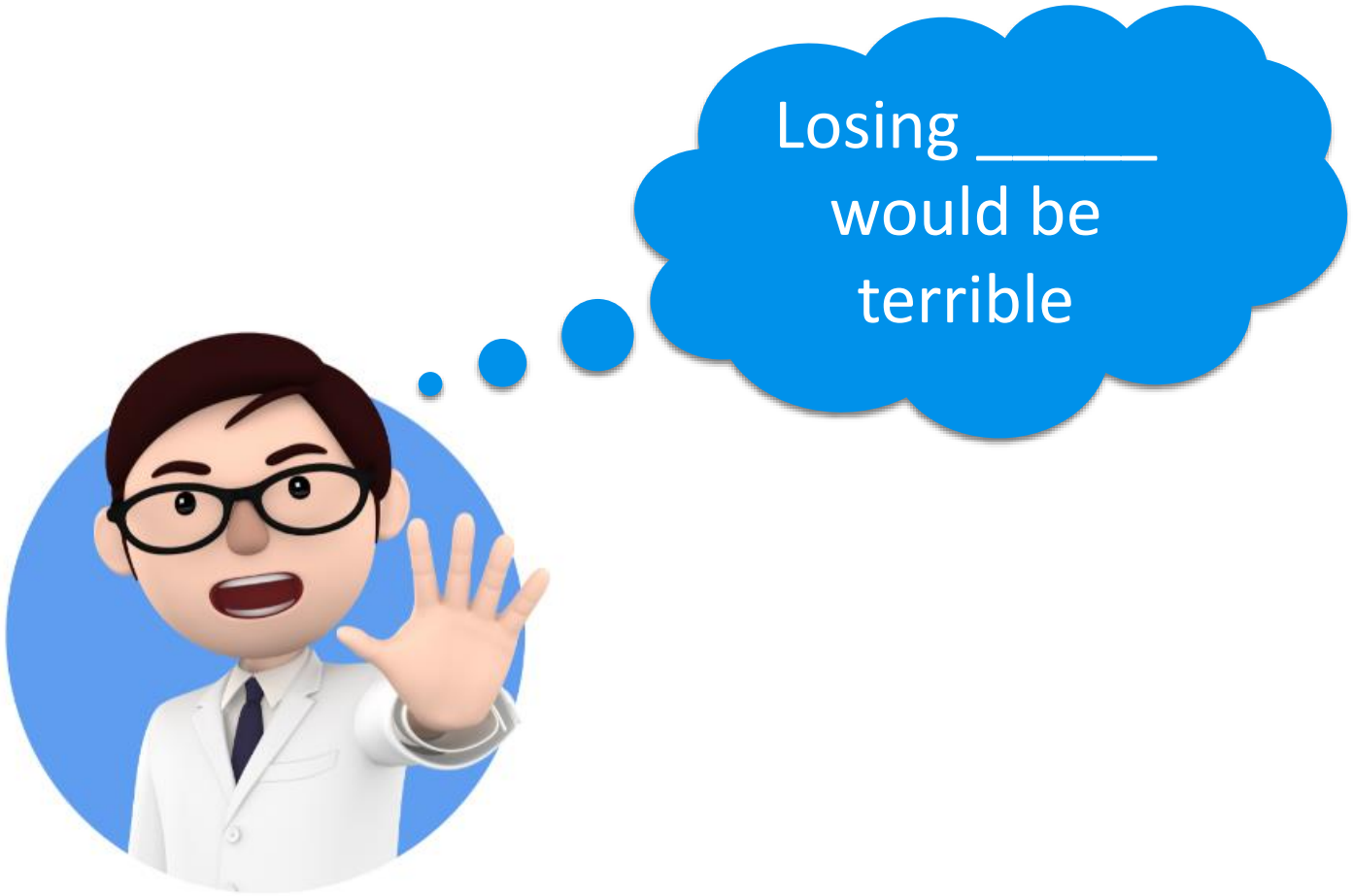
Experts, proofs

Time to explore, refute, & validate

**Right Brain**

Fear of Loss

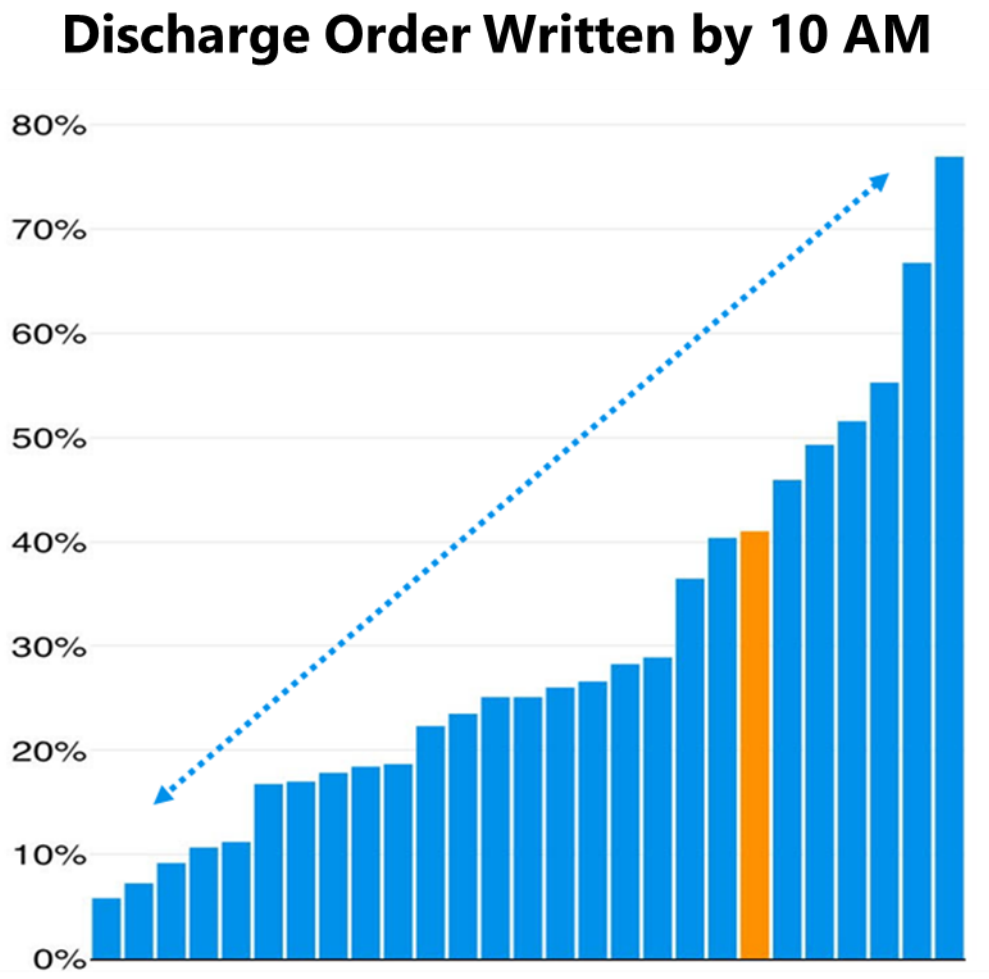
# Fear of loss




- Money?
- Time?
- Self-respect?
- What my colleagues think of me?

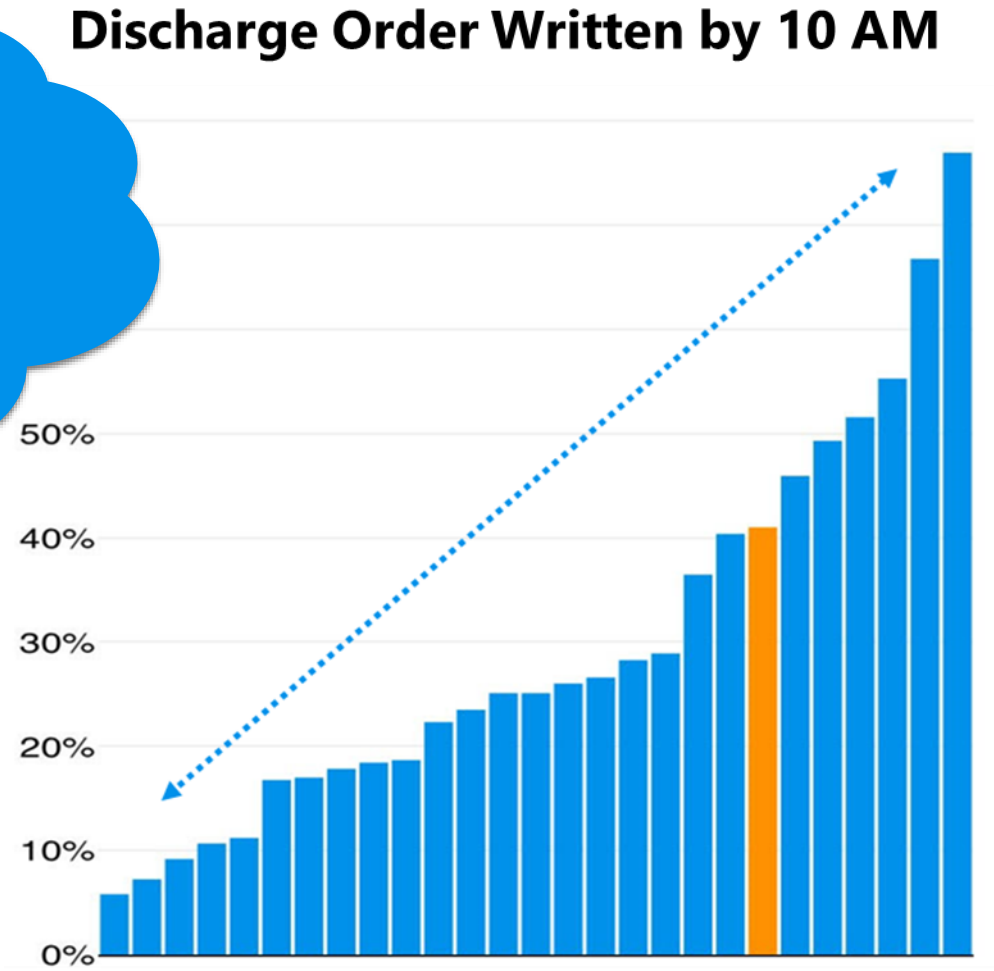
# New message: here is how you measure up…

Unwarranted variation between physicians

# Opportunity: use the emotion → to create action

1. Please help me. What can I do?
2. How can I make sure that next time I look better on this graph?
3. Do I understand the metric, and know what to do differently?



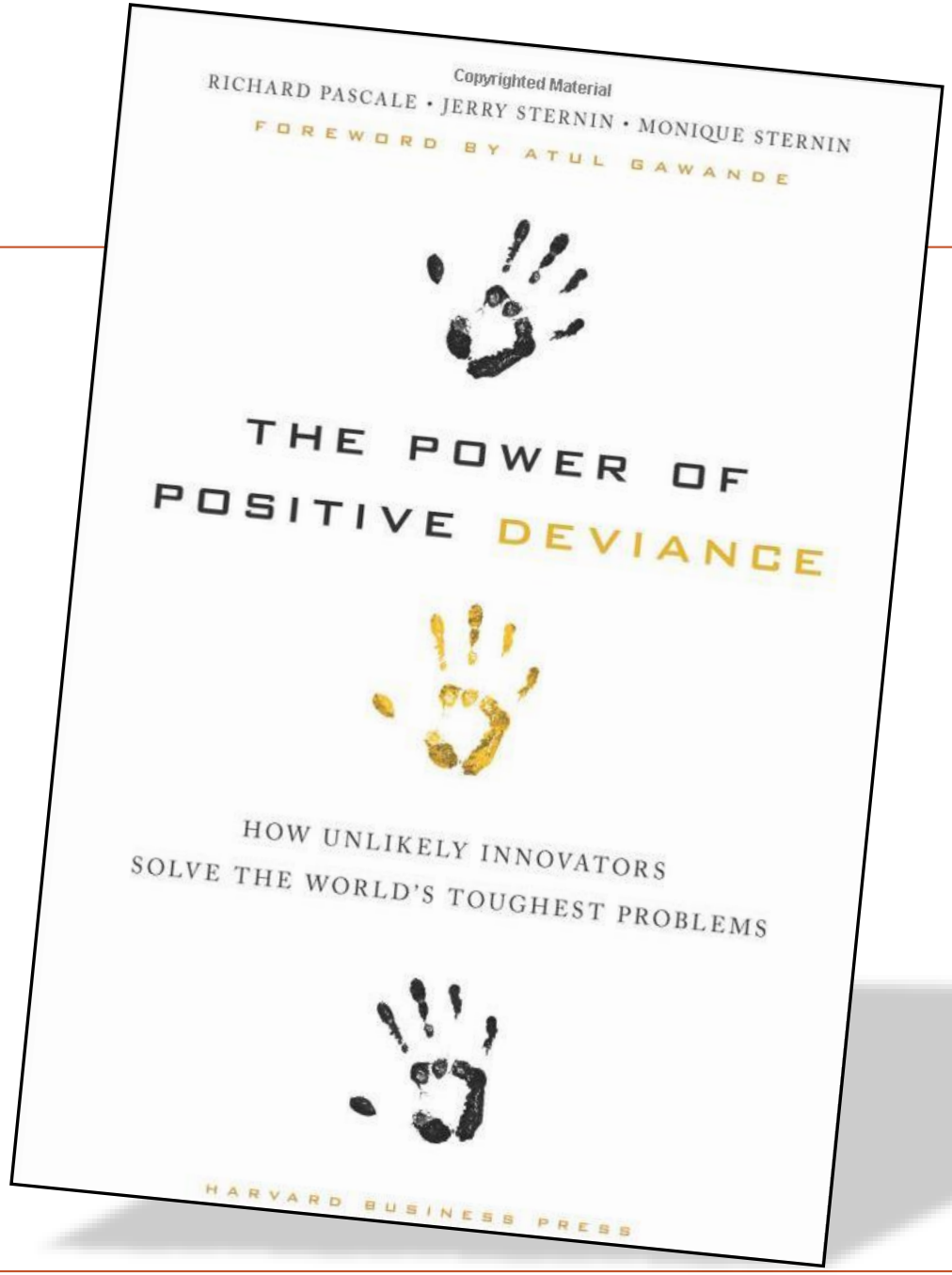

Physician feedback can be a learning opportunity

# Positive Deviance

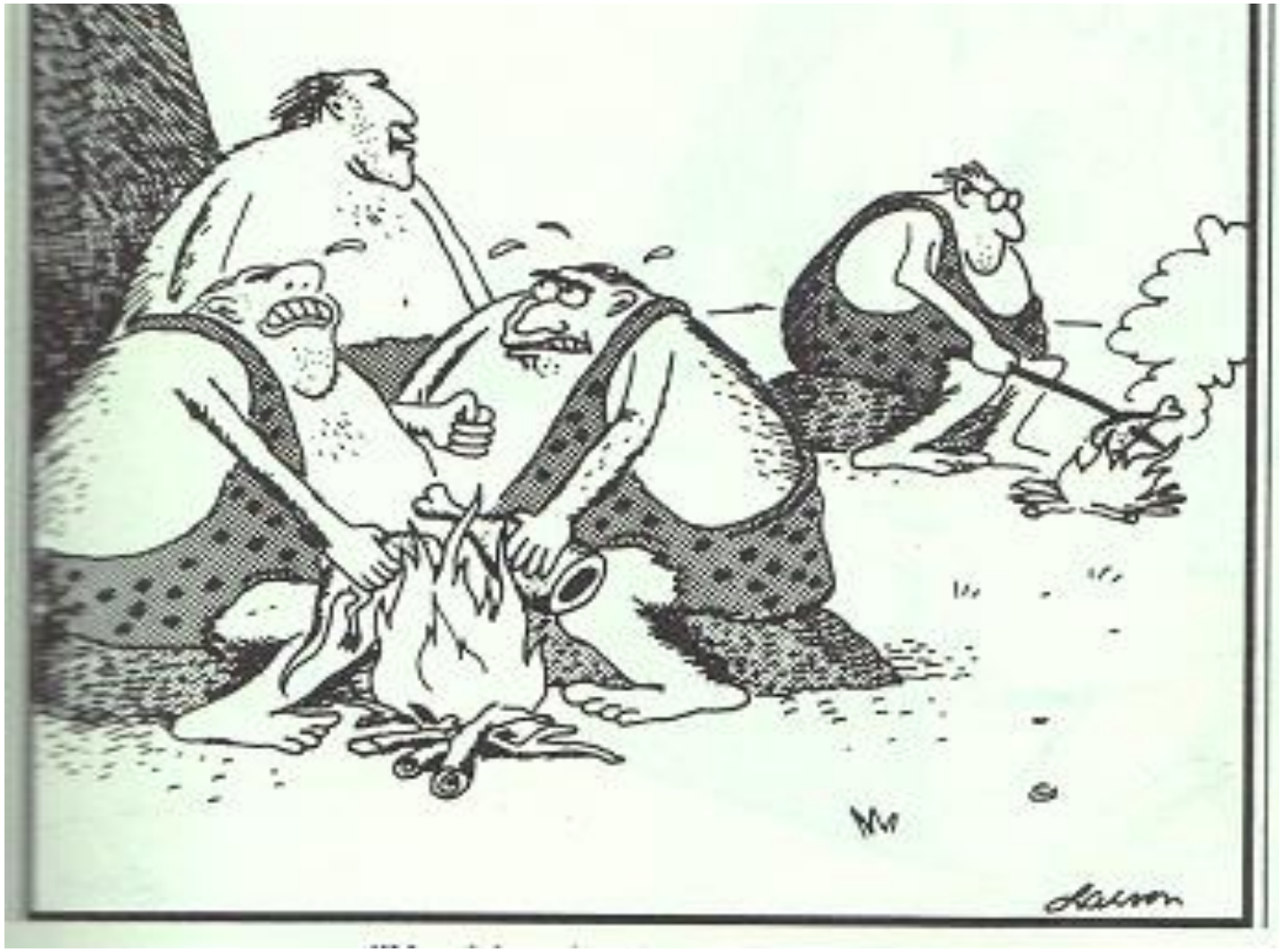
# Magic of the group process


- We are social beings
- We are naturally competitive
- We want to look good in front of our peers
- We learn from each other

# Positive deviance



# “Hey! Look what Zog do!”



Two essential parts of any metric:

- Actionable
- Attribution

Make or Break Components

***Most metrics fail on both criteria!!**

# Actionable Metrics

# Actionable Data: Do I know what to do differently tomorrow?

"The Length of Stay for your Medicare patients is 0.4 more than average" *[OUTCOME – don't know what to do to change it]*

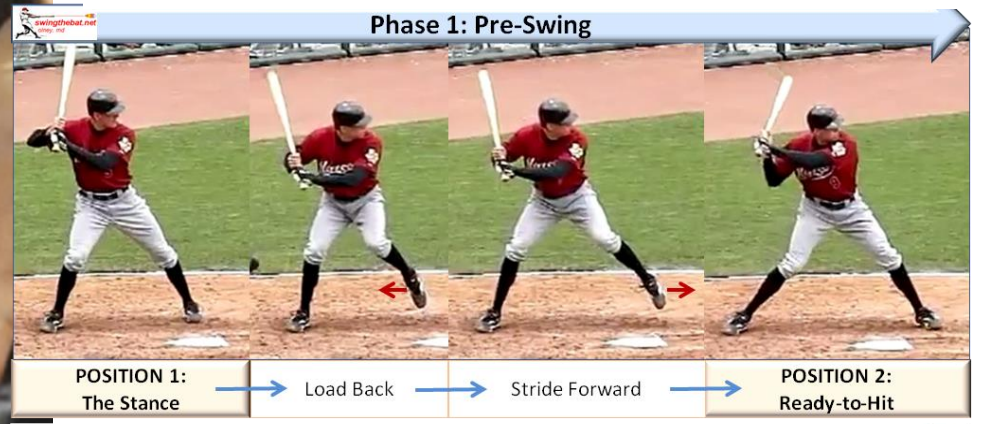
"Instead of ordering a Comprehensive Metabolic Panel, switch to ordering Basic Metabolic Panel" *[ACTION – immediately "actionable"]*

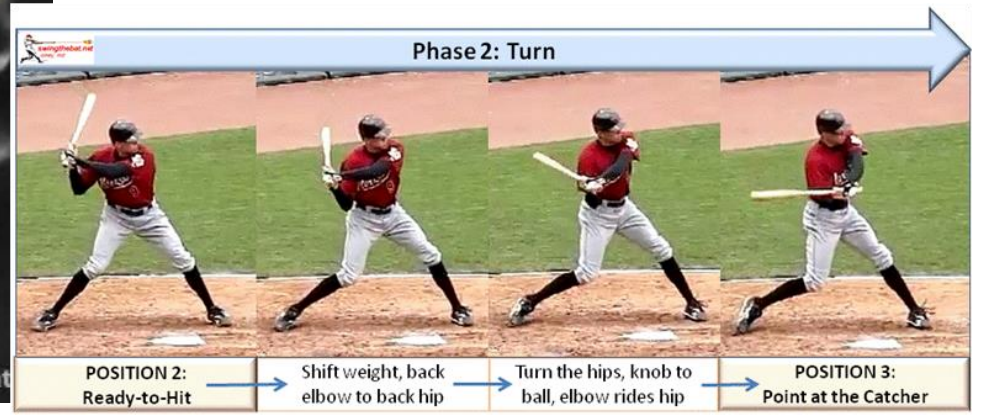
***** This is easier to describe than to actually provide to clinicians. Look around your organization – see how many distributed metrics describe actions***

# Actionable metrics?

# Actionable metrics?

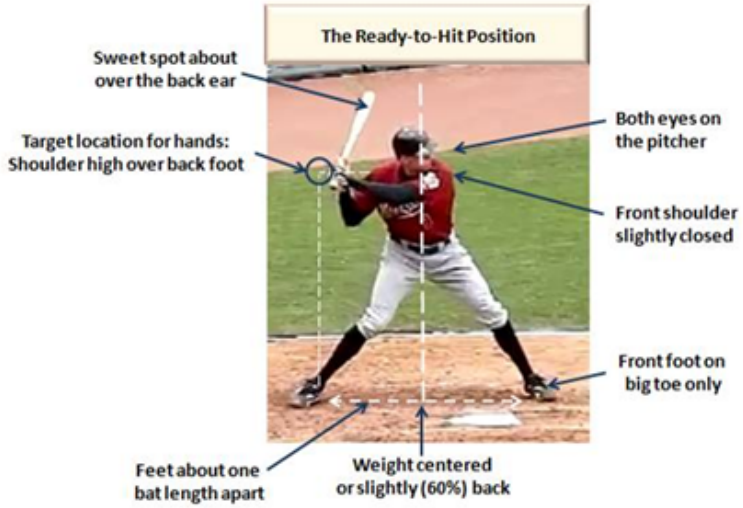

**“Bam Bam”**
**Hensley Meulens,**
**SF Giants Hitting Coach**



# Actionable metrics?

## Position 2: The Ready-to-Hit Position




When your front foot touches down, you should be in th
no-step approach, you will need to shift into this position

- ☐ The feet are one-bat length apart, front foot is on t
- ☐ The front knee is flexed forward
- ☐ Your weight is centered or slightly (60%) back
- ☐ The hips are square or slightly open
- ☐ The front shoulder is closed (turned away from the pitcher), the back shoulder is level with or slightly higher than the front shoulder
- ☐ The upper body is vertically aligned over your belly button and not tilted
- ☐ The head is level, both eyes are on the pitcher
- ☐ The hands are shoulder high and back. Push the hands back a bit as you step to create separation between the hands and the body; that is, "Step away from your hands"
- ☐ The sweet spot of the bat should be about over the back ear. Do not wrap that bat behind your head or drop the barrel below your hands

## Check List of Behaviors

**YES/NO CHECKLIST**

| No | Description | Yes | No |
|---|---|---|---|
| | | ☐ | ☐ |
| | | ☐ | ☐ |
| | | ☐ | ☐ |
| | | ☐ | ☐ |
| | | ☐ | ☐ |
| | | ☐ | ☐ |
| | | ☐ | ☐ |
| | | ☐ | ☐ |
| | | ☐ | ☐ |

# Is this feedback actionable?

*Criteria: "Do I know what to do differently tomorrow morning?"*

| Measure | Actionable? |
| --- | --- |
| • Readmissions are too high | • Yes / No |
| • Postop order for Toradol vs Opioid | • Yes / No |
| • LOS is too long compared to avg | • Yes / No |
| • CT orders for Abd Pain in ED? | • Yes / No |
| • Too many labs per hospitalization | • Yes / No |
| • CBC ordered as 'daily' vs 'in AM' | • Yes / No |
| • Total cost of care in highest 10% | • Yes / No |
| • Pls order ANA before Lupus panel | • Yes / No |

# Attribution

# Physician attribution challenge

- **Helpful Attribution Categories or Insufficient?**

| | | | |
|---|---|---|---|
| **Admitting doctor** | **Attending of record** | **Discharging doctor** | **Principal surgeon** |

**Are These Attribution Categories More Helpful?**

| | | |
|---|---|---|
| **Person who ordered the test** | **Person who supervised the resident who ordered the test** | **Who wrote admission orders when telemetry was NOT ordered (attribution for non-orders)** |

# Vitamin D Lab Test

## variation reduction project


# Vitamin D

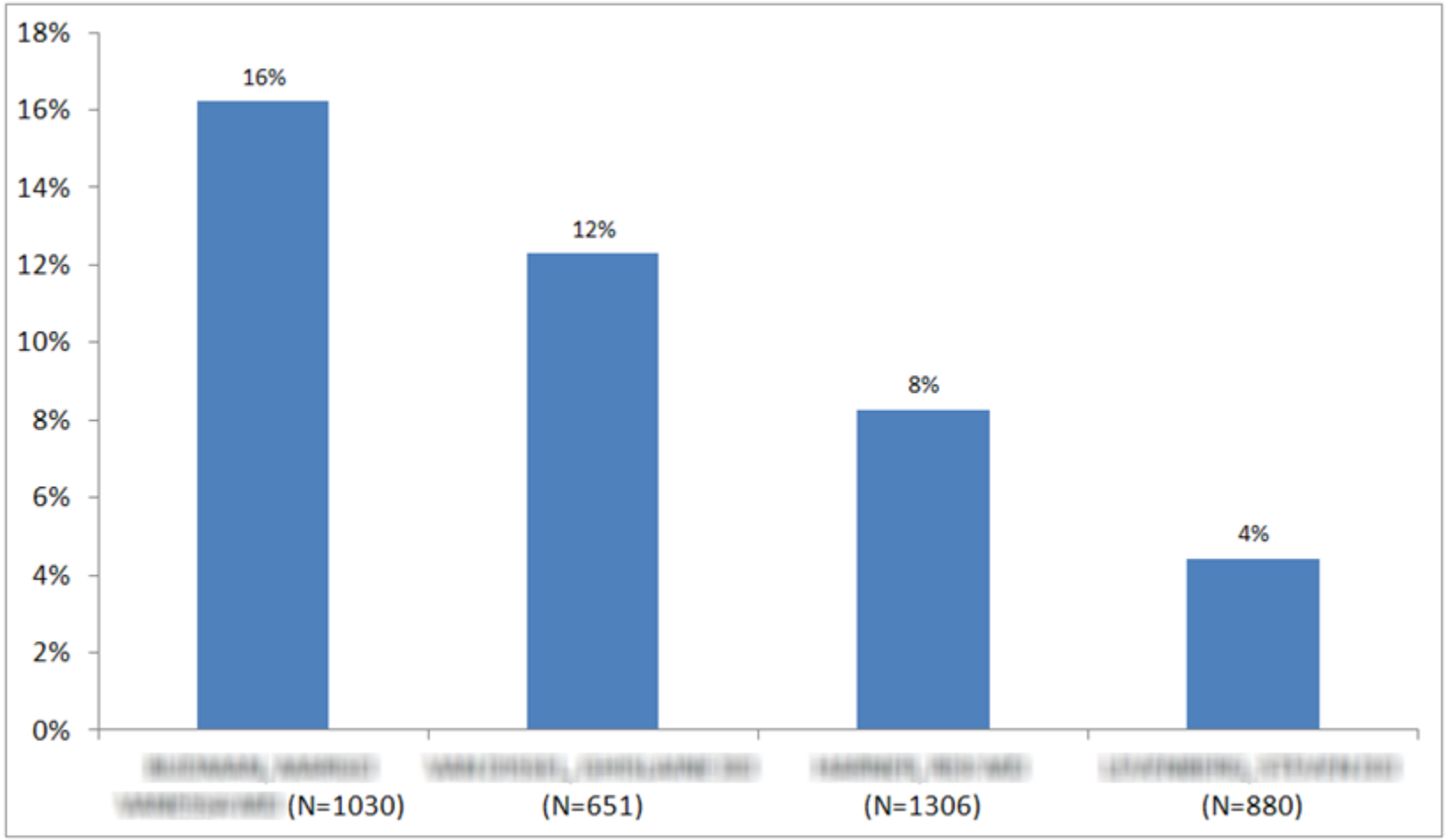
Testing of vitamin D levels is now widespread, as is the idea that everyone needs more of the stuff. At last count, the Nutrition Business Journal reported that sales of vitamin D in the U.S. made the leap from $40 million in 2001 to $425 million in 2009. But is this notion that vitamin D should be a fixture in most medicine cabinets justified?

According to Dr. Clifford Rosen, an osteoporosis expert at the Maine Medical Center Research Institute and one of the world's leading experts on vitamin D, the obsession with checking levels in the blood started about a decade ago and "now won't stop." In e U.S., Medicare payments to cover vitamin D testing went from about $1 million a cade ago to $129 million in 2008. "It's the most overused test in clinical medicine," Dr. Rosen said. "Patients with bone disease or gastrointestinal disorders should be checked but it should never be part of the routine examination."

In fact, the evidence shows taking extra vitamin D doesn't help for a number of conditions for which it's prescribed, most people get enough, and over-use may actually be harmful.

http://www.macleans.ca/authors/julia-belluz/the-truth-about-vitamin-d/

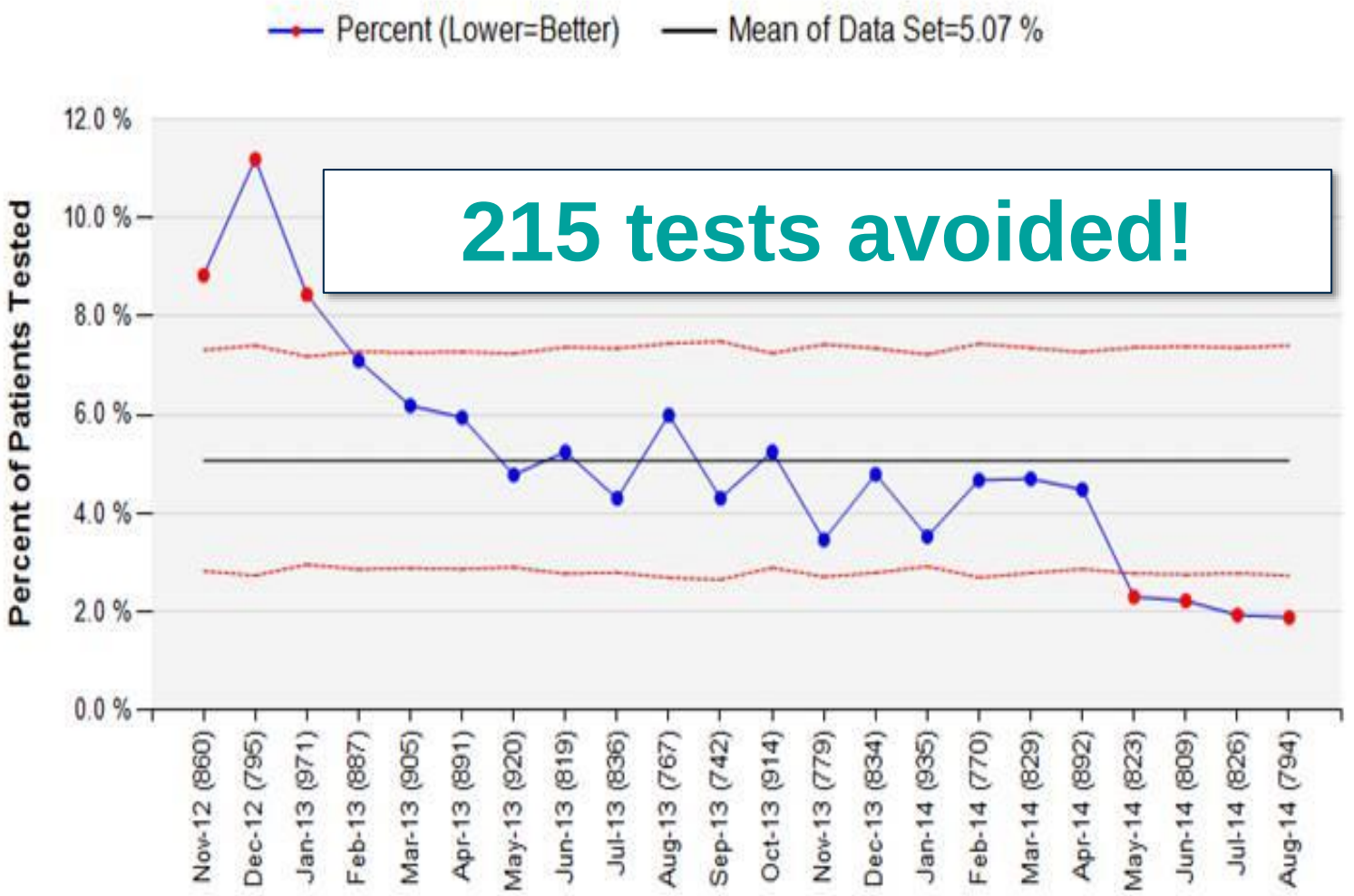
# Percent of patients age 18 or older seen in the prior 12 months who received a vitamin D test



# Family Medicine: Percent of Patients Age 18 and Over Who Received a Vitamin D Test

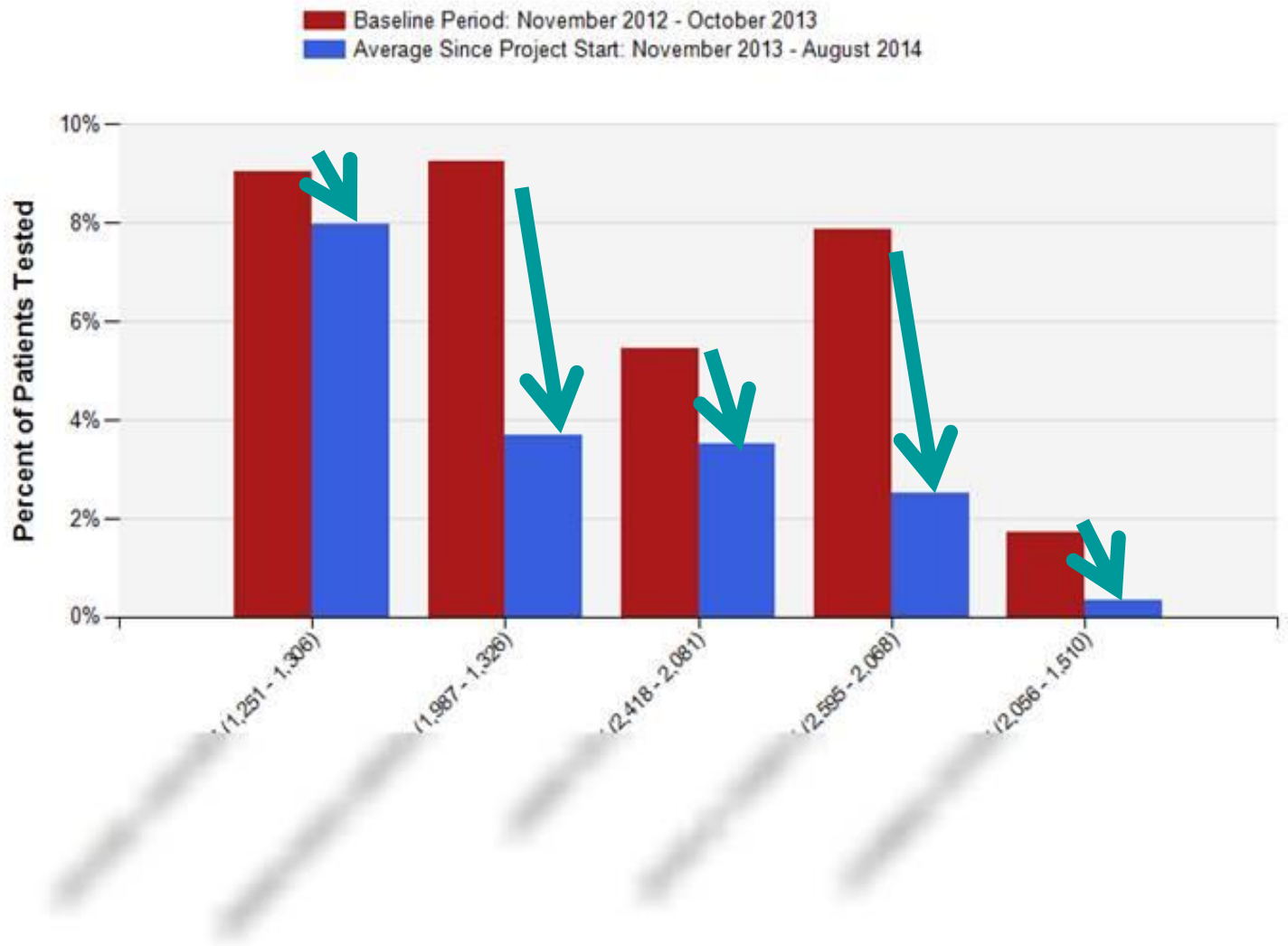
Project Start Date: Nov 05, 2013

*P-Chart*




**215 tests avoided!**

# Family Medicine: Percent of Patients Age 18 and Over Who Received a Vitamin D Test



# Reactions from physicians

*"I haven't had this much fun since residency"*

*"I have been waiting for this for ten years"*

*"That was a lot more fun than I expected from the title of the meeting"*

*"When are you guys coming back?"*

# Thyroid Lab Test

## variation reduction project

Choosing Wisely®

*An initiative of the ABIM Foundation*

Search

About | Lists | In Action | Resources | Videos

Lists > Search Recommendations > Endocrine Society – Total or free T3 level when assessing levothyroxine dose in hyperthyroid patients

# Endocrine Society

View all recommendations from this society

Released October 16, 2013*

**Don't order a total or free T3 level when assessing levothyroxine (T4) dose in hypothyroid patients.**

T4 is converted into T3 at the cellular level in virtually all organs. Intracellular T3 levels regulate pituitary secretion and blood levels of TSH, as well as the effects of thyroid hormone in multiple organs; a normal TSH indicates an adequate T4 dose. Conversion of T4 to T3 at the cellular level may not be reflected in the T3 level in the blood. Compared to patients with intact thyroid glands, patients taking T4 may have higher blood T4 and lower blood T3 levels. Thus the blood level of total or free T3 may be misleading (low normal or slightly low); in most patients a normal TSH indicates a correct dose of T4.

---

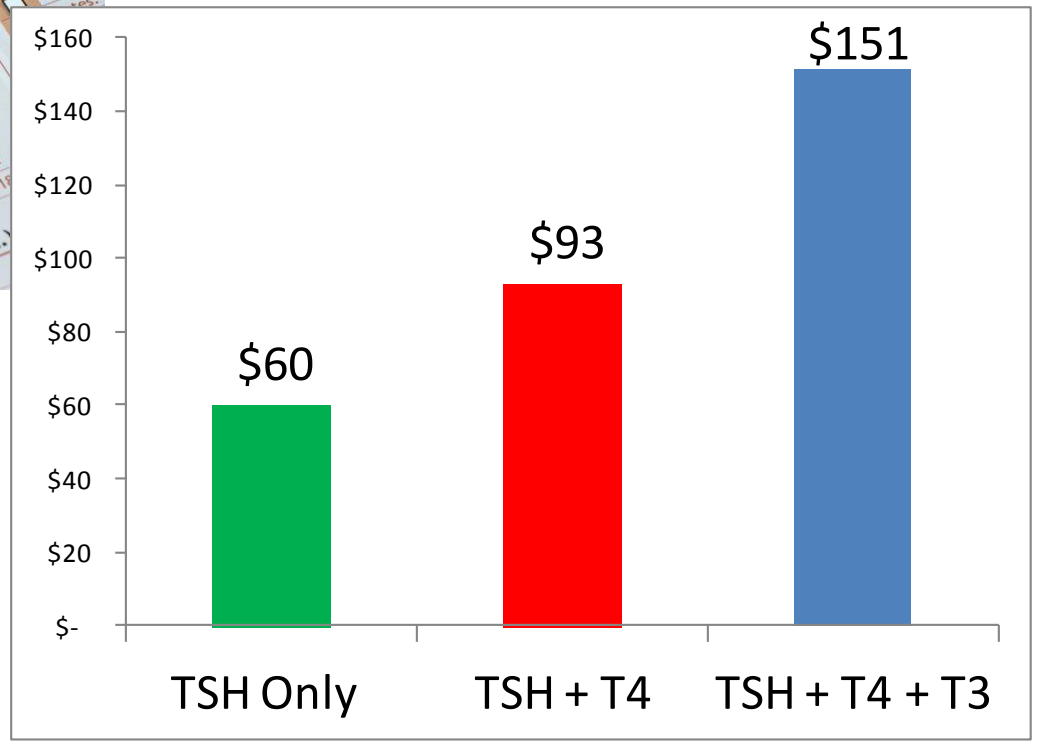
*These items are provided solely for informational purposes and are not intended as a substitute for consultation with a medical professional. Patients with any specific*

ENDOCRINE SOCIETY

**Patient Materials**

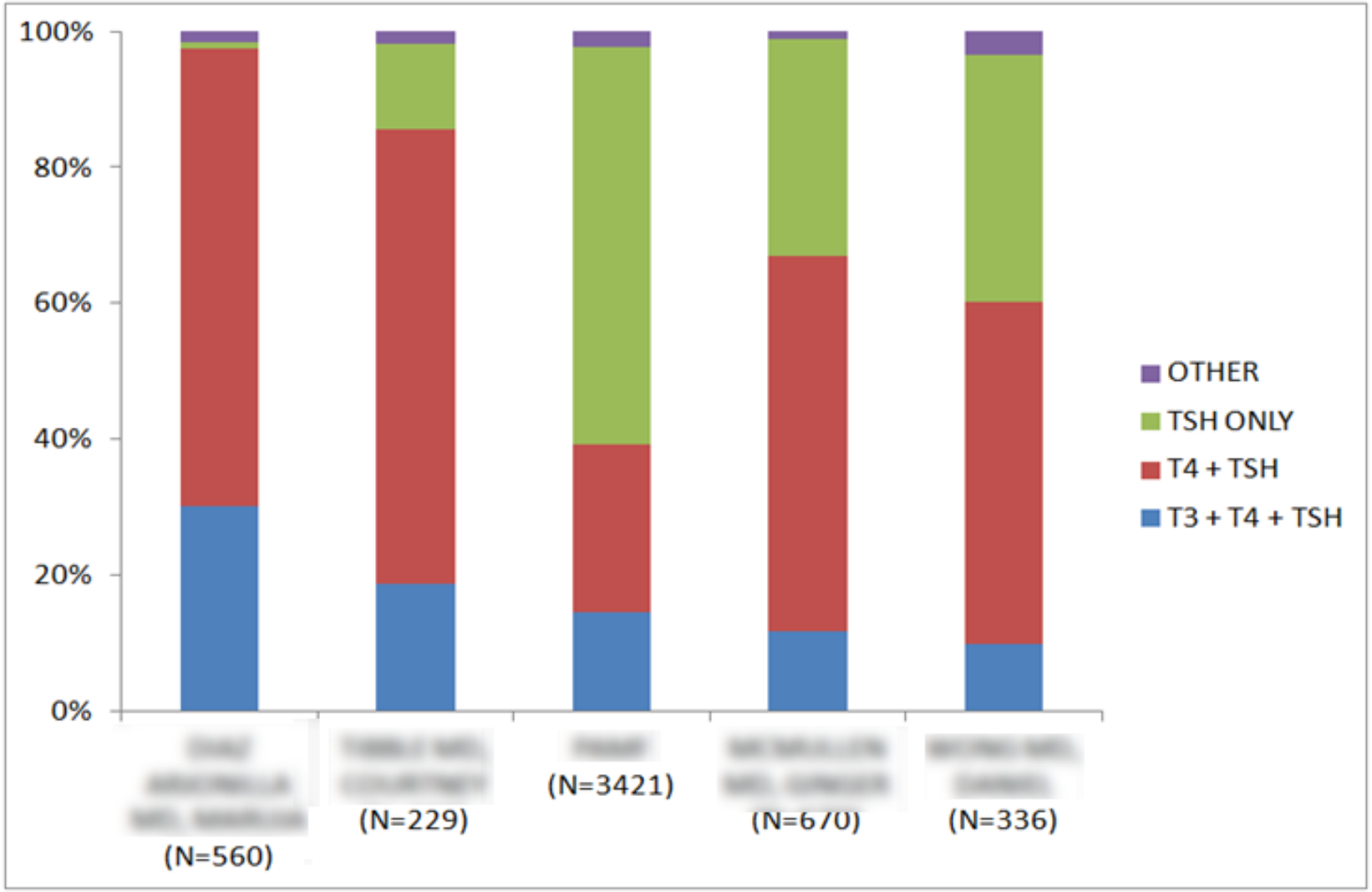
- Search patient-friendly resources by Consumer Reports.

# Appropriate lab testing for patients with hypothyroidism

# Endocrinology

## Distribution of thyroid tests for patients with hypothyroidism



VARIATION REDUCTION PROJECT CHARTER

# Appropriate Testing for Patients with Hypothyroidism

Medical Group
Endocrinology

*Project start date: 11/12/2014*

## Project Definition

**Problem Statement:** (Duration, Where, What, Why)
Between October 2013 and September 2014, 79% of patients with hypothyroidism received a T3 and/or a T4 test. This is a problem because a TSH test is often sufficient. Ordering of additional tests leads to increased costs to the health care system without improving care for patients.

**Local Standard Defined:**
For patients with hypothyroidism order a TSH annually for stable patients. Consider T3 or T4 only under the following circumstances:

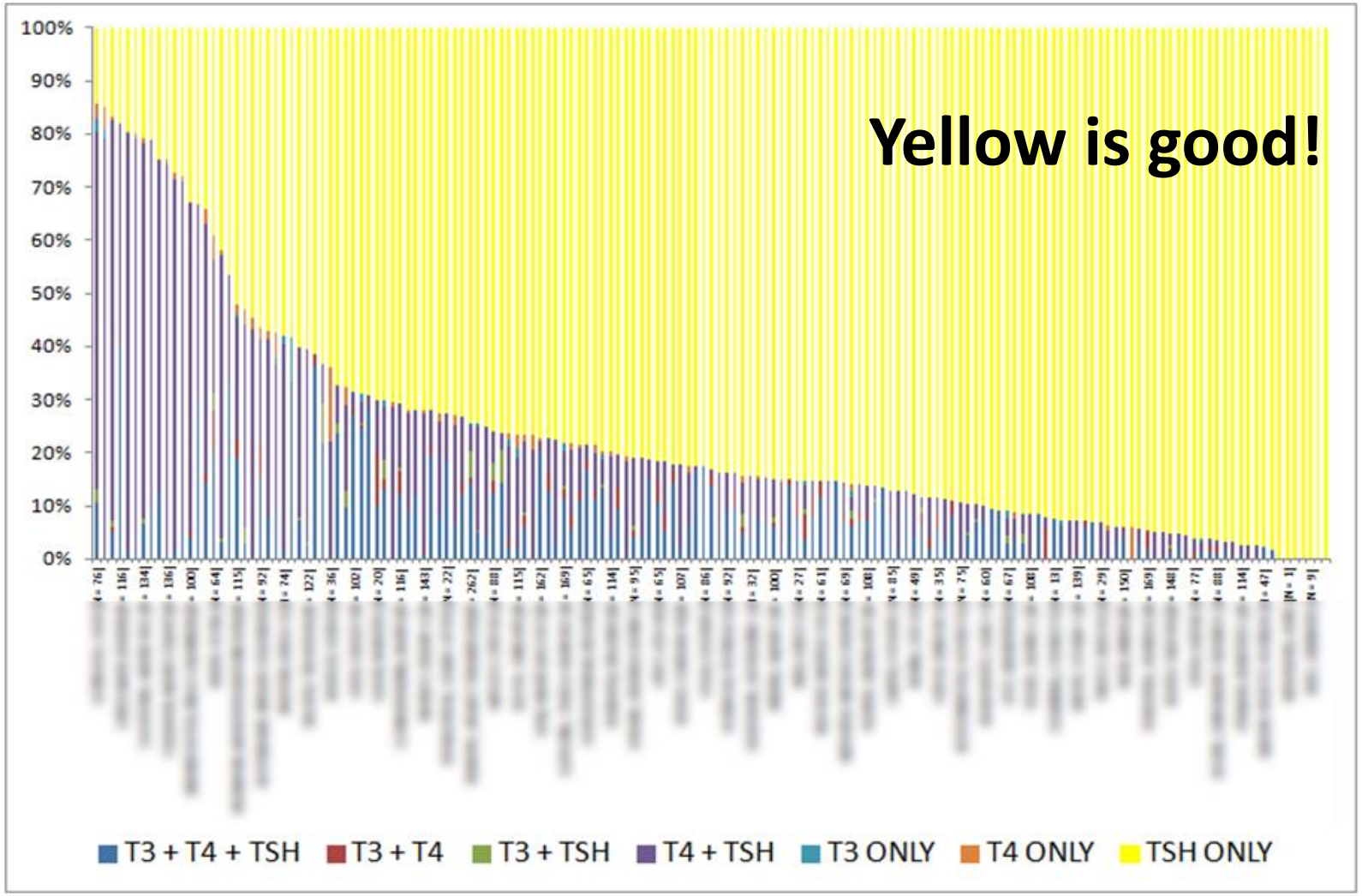
1. Consider T4 for patients on Armour or Cytomel plus Levothyroxine
2. Consider Free T4 for thyroid cancer patients that are on suppression, patients with gastric bypass or patients with malabsorption
3. If patients insist on T3 lab test consider decreasing frequency

**Goal Statement/Objective:** (What are we trying to accomplish? How much, by when?)
Decrease the percent of patients with a T3 or T4 test by a statistically significant amount by November 2015.

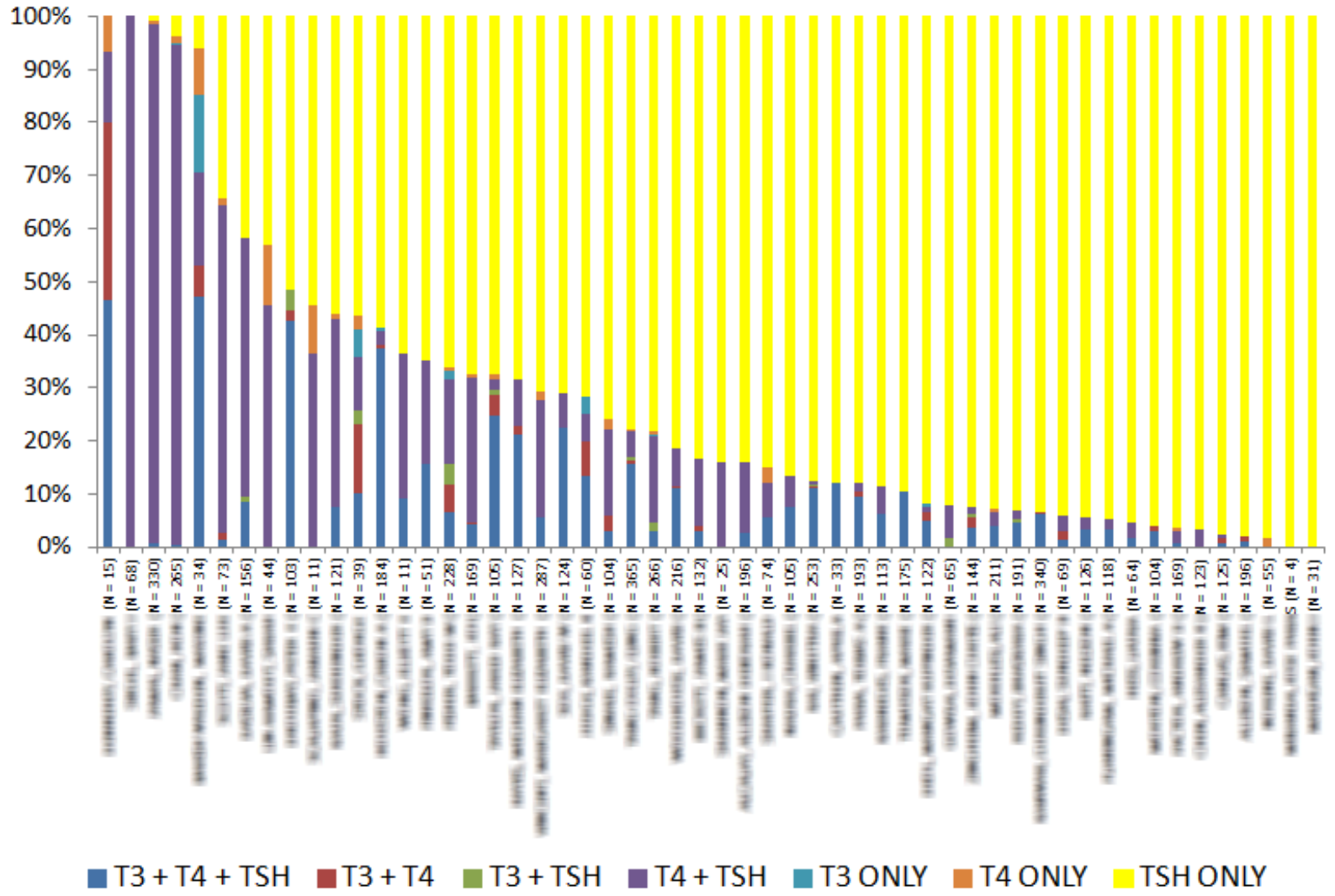
**Process Metrics:** How will you measure success? How will we know if a change is an improvement?

**Success Metrics:**

# Distribution of thyroid tests for patients with hypothyroidism



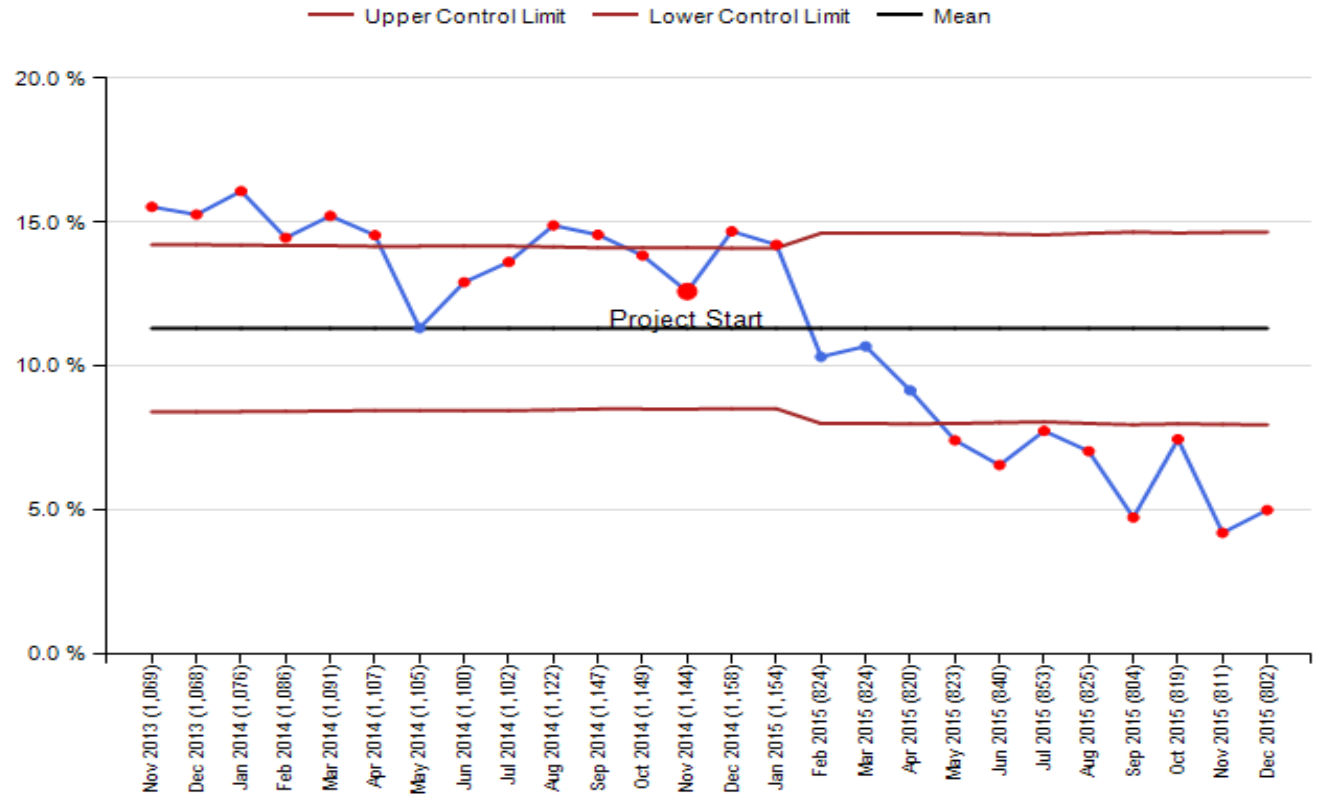
# Distribution of thyroid tests for patients with hypothyroidism



# Endocrinology

**PERCENT OF PATIENTS WITH HYPOTHYROIDISM WHO RECEIVED AN ORDER FOR A T3 OR T4 TEST**

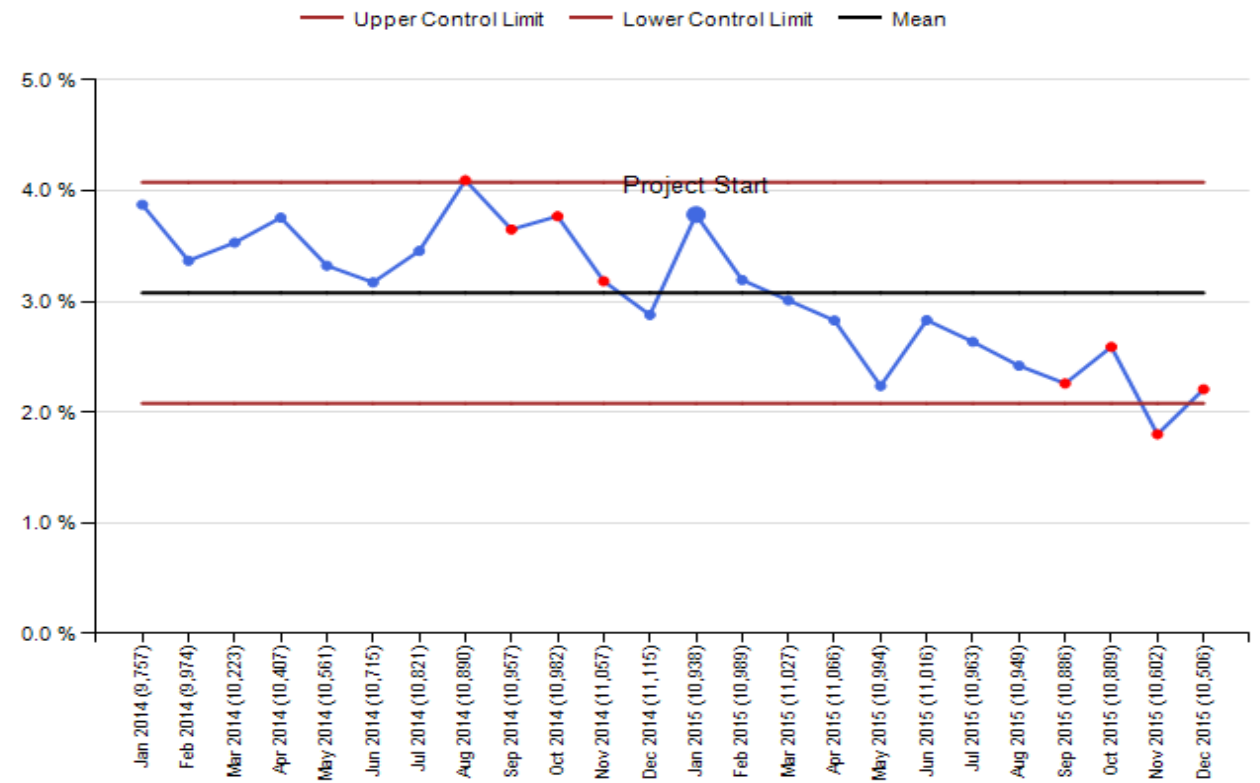
| Baseline | Performance since project start | Current | Savings | Status |
|---|---|---|---|---|
| 14 % | 9 % | 5 % | $101,098 | Achieved statistically significant improvement |



# Family medicine

**PERCENT OF PATIENTS WITH HYPOTHYROIDISM WHO RECEIVED AN ORDER FOR A T3 OR T4 TEST**

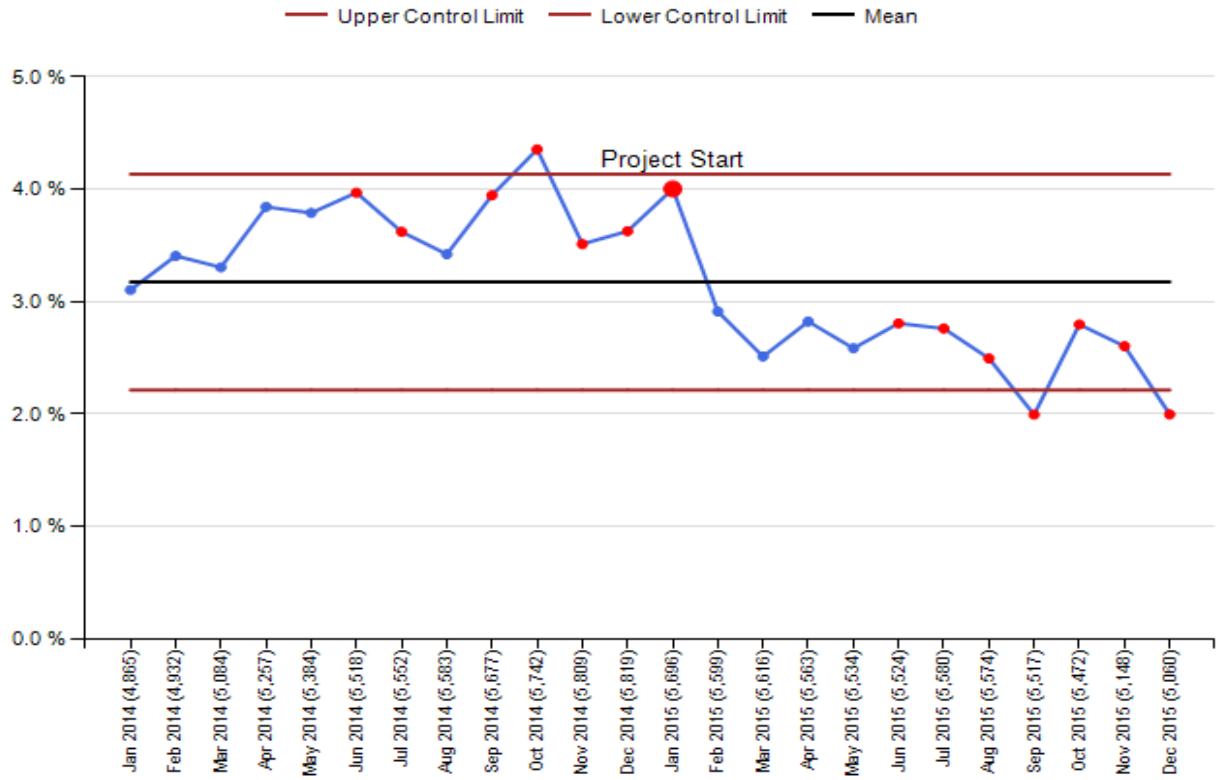
| Baseline | Performance since project start | Current | Savings | Status |
|---|---|---|---|---|
| 4 % | 3 % | 2 % | $162,990 | High performer (rate exceeds 75th percentile) achieved statistically significant improvement |



# Internal medicine

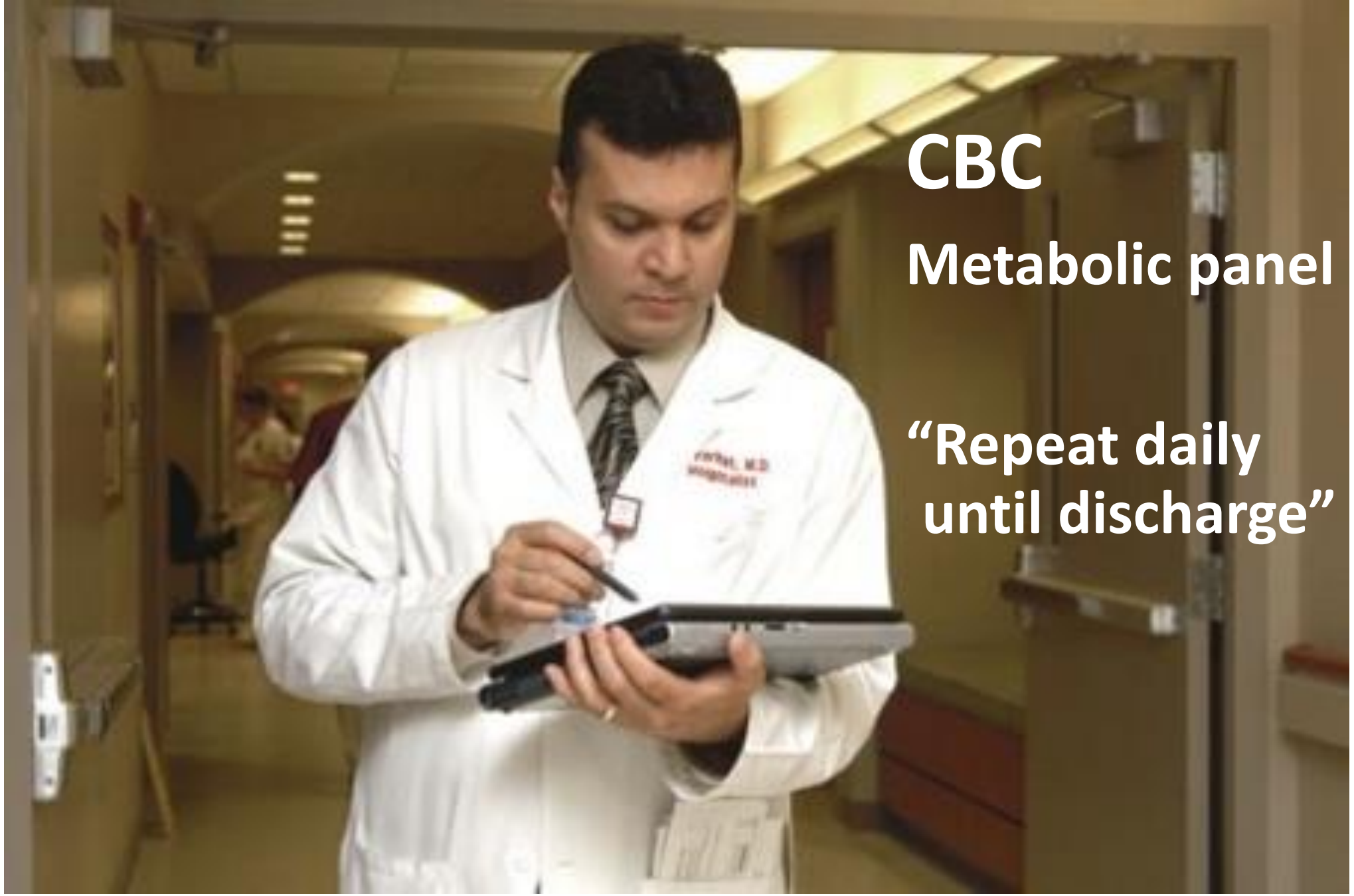
**PERCENT OF PATIENTS WITH HYPOTHYROIDISM WHO RECEIVED AN ORDER FOR A T3 OR T4 TEST**

| Baseline | Performance since project start | Current | Savings | Status |
|---|---|---|---|---|
| 4 % | 3 % | 2 % | $89,111 | High performer (rate exceeds 75th percentile) achieved statistically significant improvement |

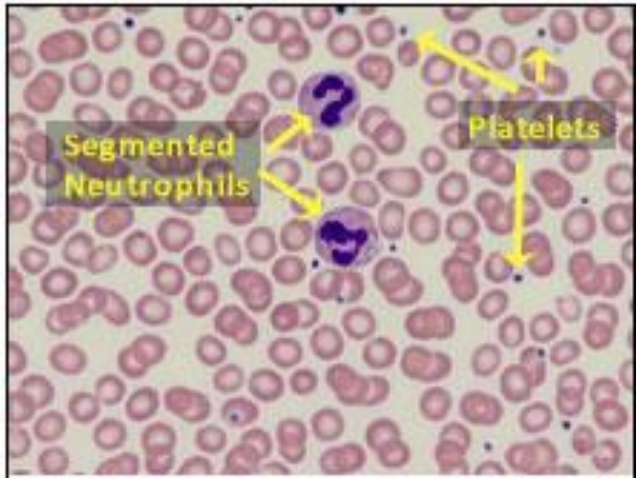


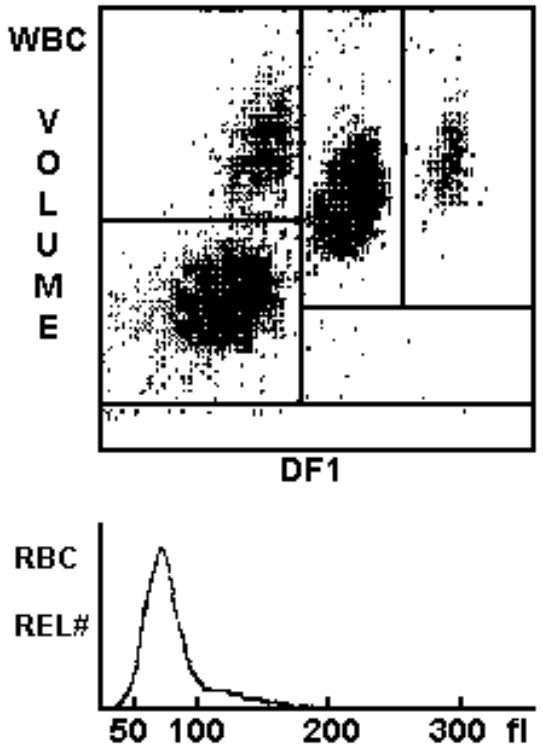
# Daily Labs

## variation reduction project


CBC
Metabolic panel
“Repeat daily
until discharge”

# Blood Test: Complete Blood Count



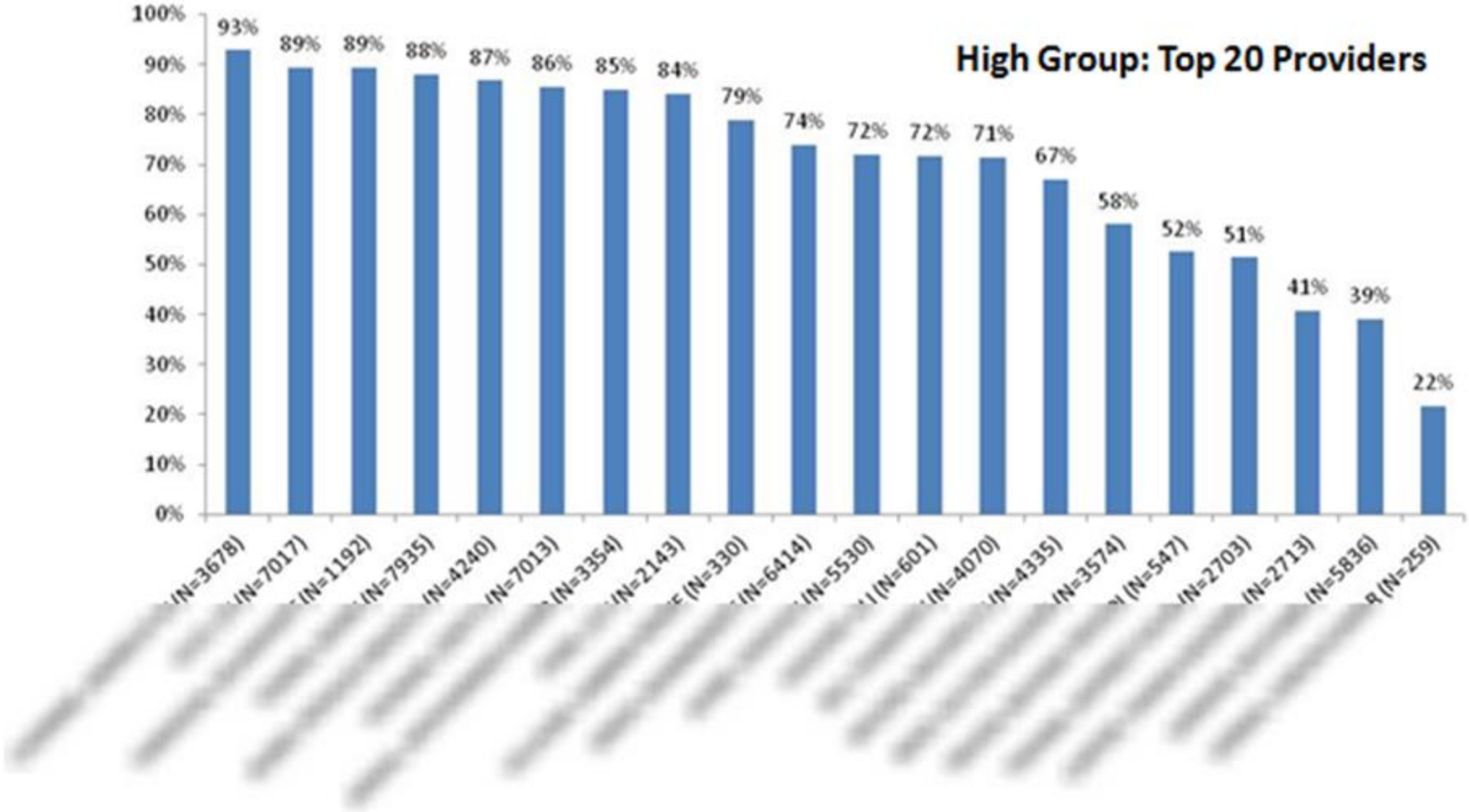




| | | | |
|---|---|---|---|
| WBC | 5.5 | | |
| | % | | # |
| NE | 54.7 | | 3.0 |
| LY | 34.1 | | 1.9 |
| MO | 7.5 | | 0.4 |
| EO | 3.0 | | 0.2 |
| BA | 0.7 | | 0.0 |
| RBC | 4.28 | L | |
| HGB | 9.7 | L | |
| HCT | 29.9 | L | |
| MCV | 69.7 | L | |
| MCH | 22.6 | L | |
| MCHC | 32.4 | L | |
| RDW | 18.4 | H | |
| PLT | 331 | | |
| MPV | 8.8 | | |

## Percent Repeating Labs - [redacted] MEDICAL CTR CBC, Met. Panel, Mg++,

Phos: April 2013 – March 2014

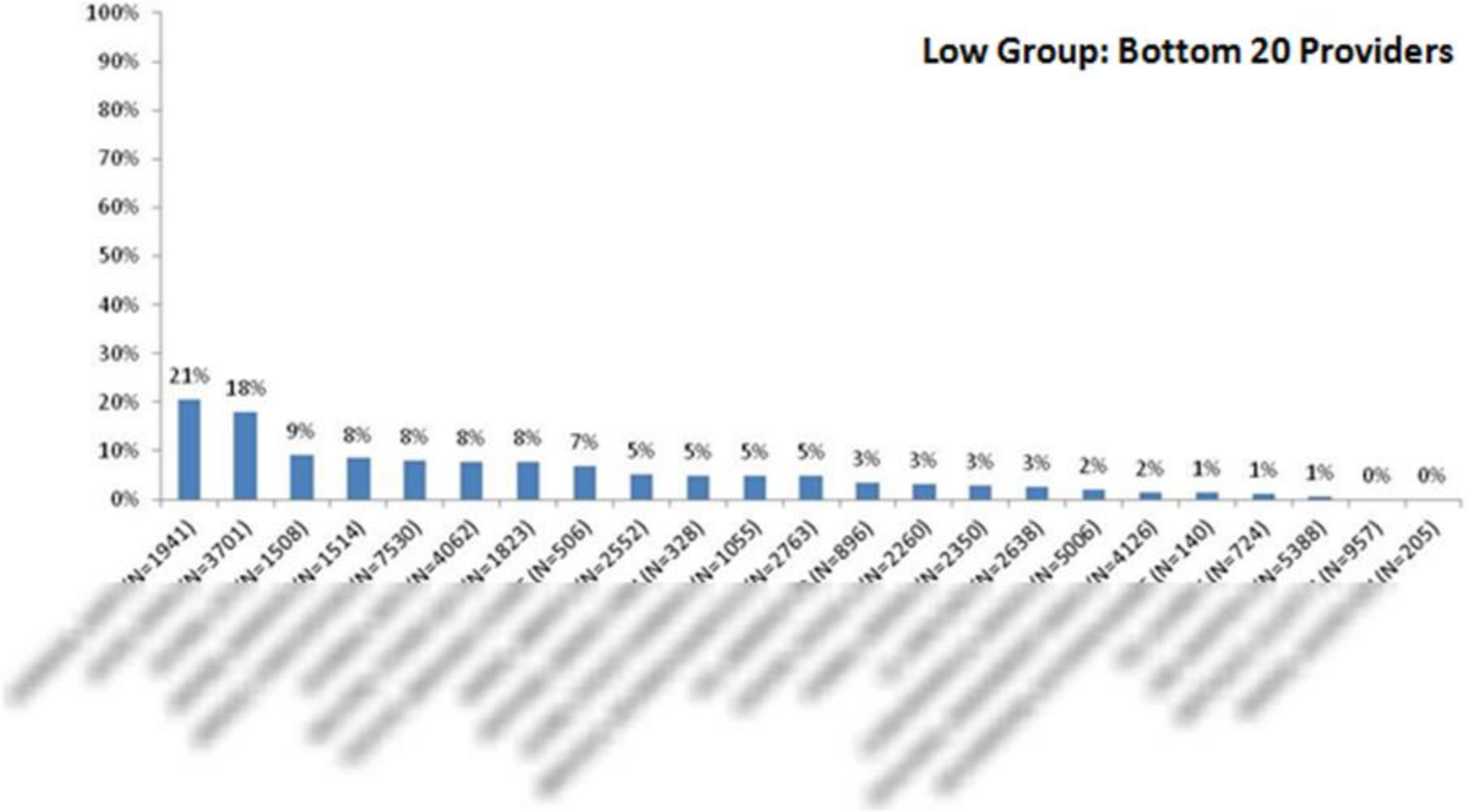
Potential for savings at 33% reduction: **$471,000**



## Percent Repeating Labs - [redacted] MEDICAL CTR CBC, Met. Panel, Mg++,

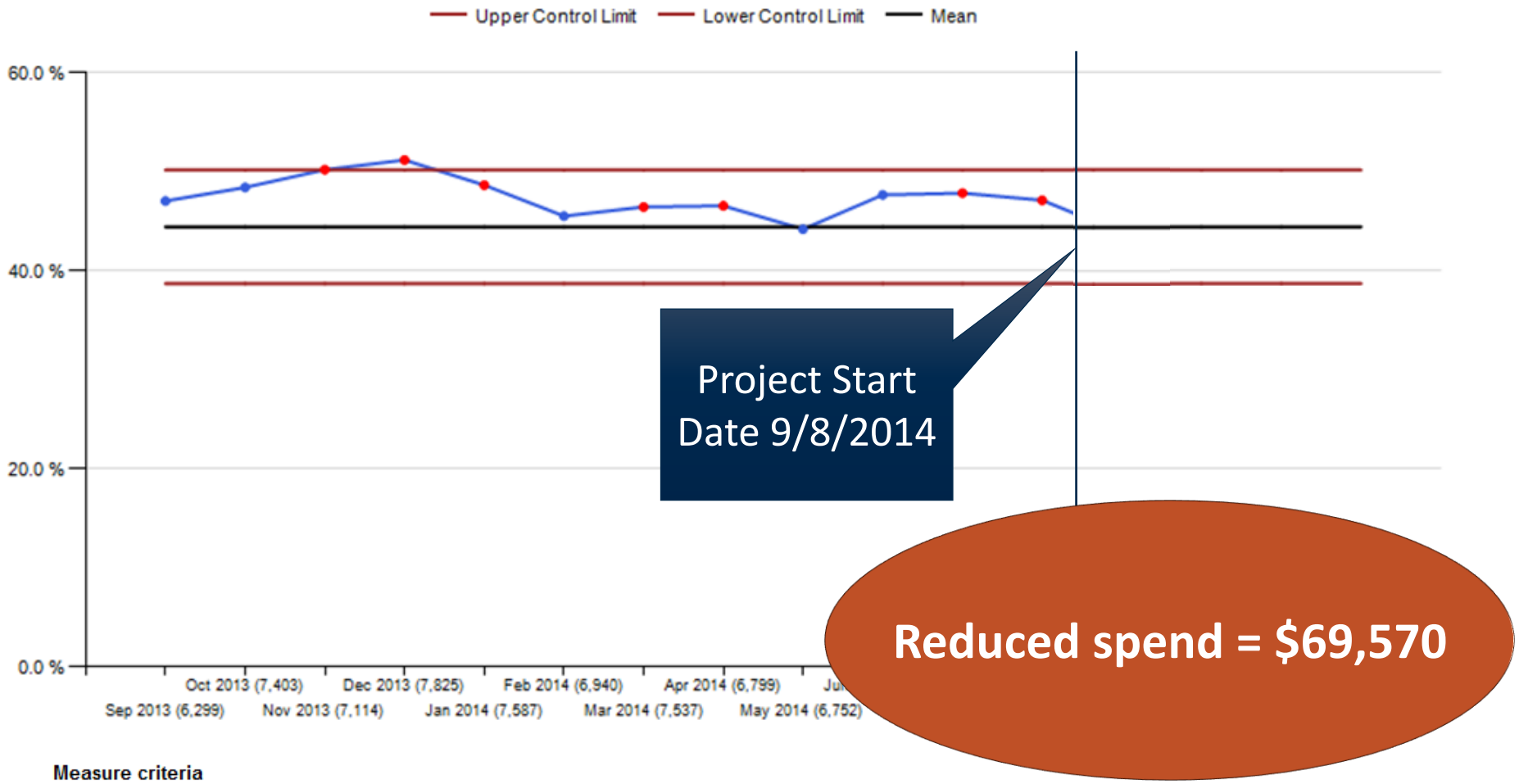
Phos: April 2013 – March 2014

Potential for savings at 33% reduction: **$471,000**



## PERCENT OF LABS THAT WERE ORDERED BY A HOSPITALIST AS REPEATING

| Baseline | Performance since project start | Current | Savings | Status |
|---|---|---|---|---|
| 48 % | 35 % | 31 % | $69,570 | Achieved statistically significant improvement |




**Measure criteria**

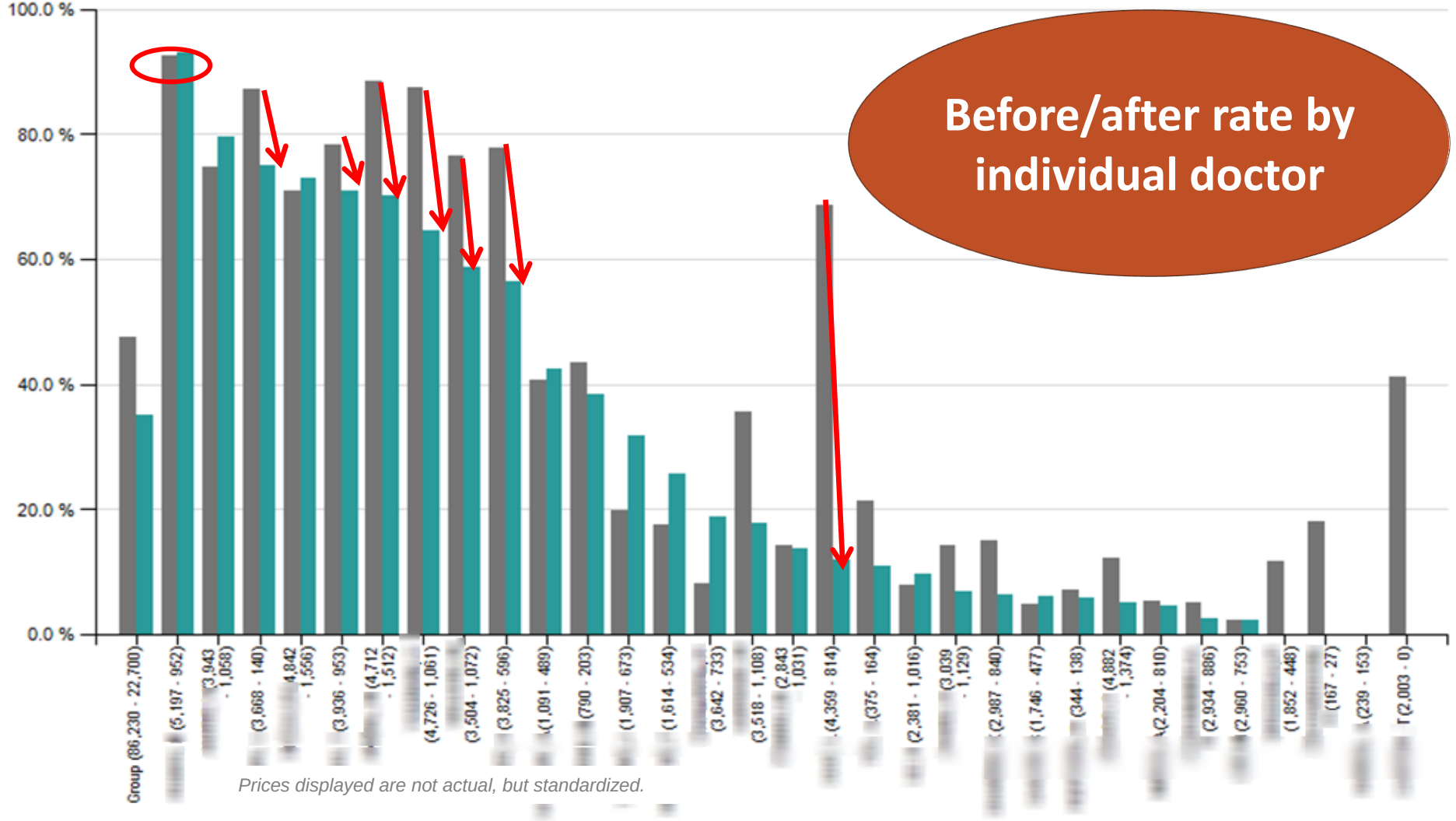
Denominator: Count of four common labs (CBC/Met Panel) ordered in the measurement month by a participating hospitalist

Numerator: Of the results in the denominator, count those that were ordered as repeating

*Prices displayed are not actual, but standardized.*

## PERCENT OF LABS THAT WERE ORDERED BY A HOSPITALIST AS REPEATING

| Baseline | Performance since project start | Current | Savings | Status |
|---|---|---|---|---|
| 48 % | 35 % | 31 % | $69,570 | Achieved statistically significant improvement |



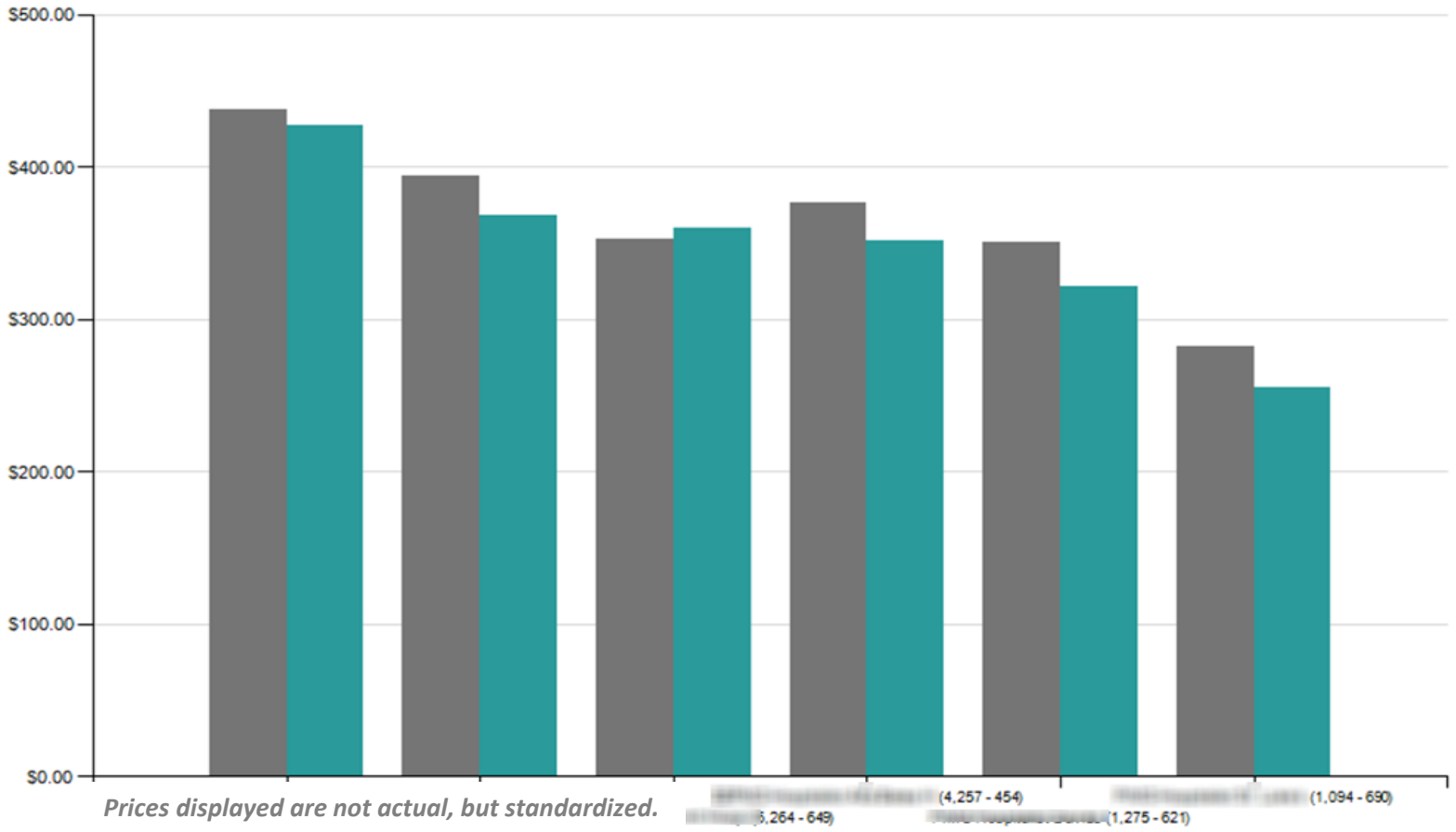

Before/after rate by individual doctor

*Prices displayed are not actual, but standardized.*

# Project spread: 6 hospitals in 4 months

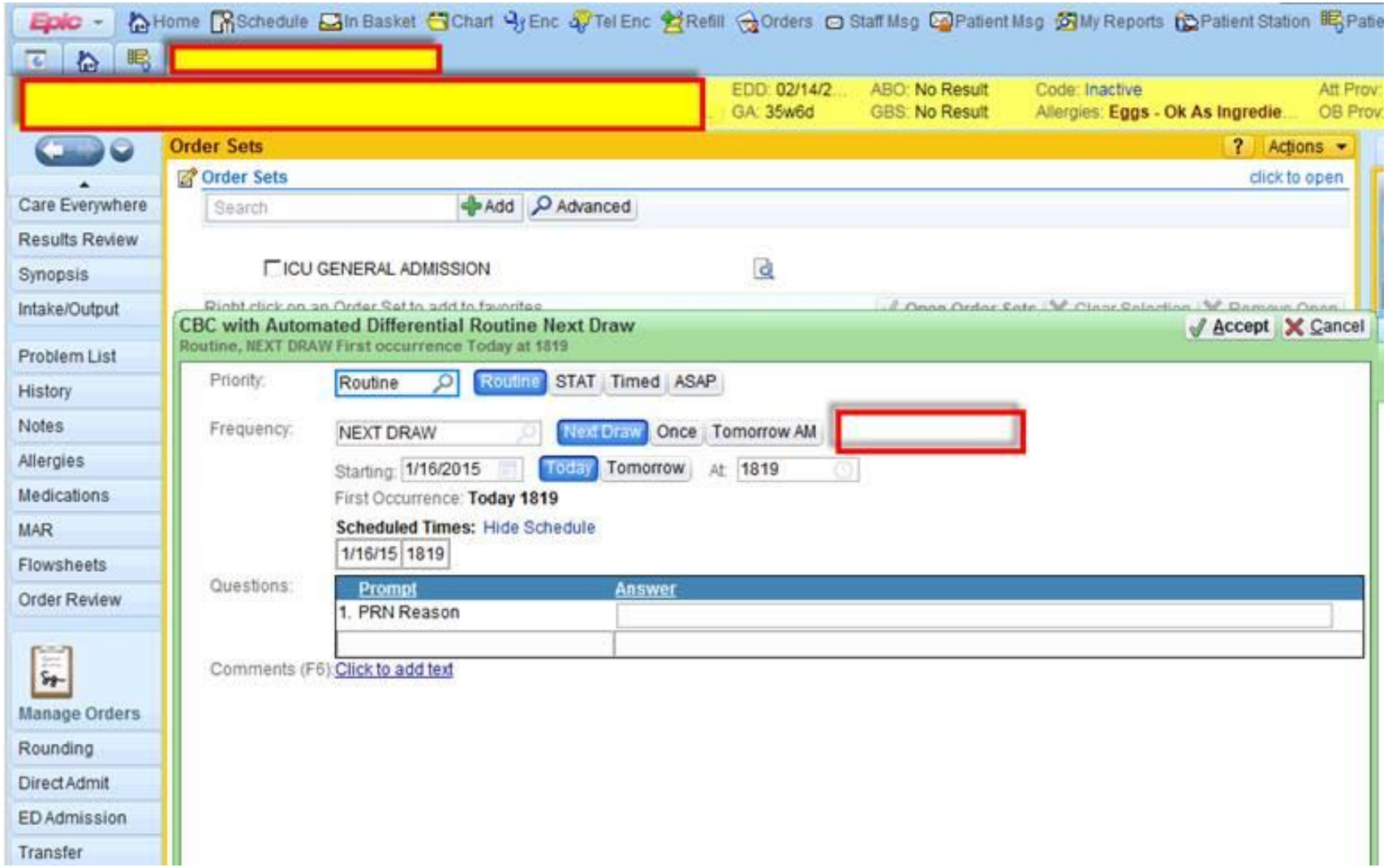
**AVERAGE COST PER DISCHARGE FOR FOUR COMMON LAB TESTS**

| Baseline | Performance since project start | Current | Savings | Status |
|---|---|---|---|---|
| $394.05 | $368.74 | $389.22 | $69,570 | Achieved statistically significant improvement |




*Prices displayed are not actual, but standardized.*

# Hardwired solution: “repeat” button removed



# 550 fewer blood draws since project start

# TXA for Major Ortho Procedures

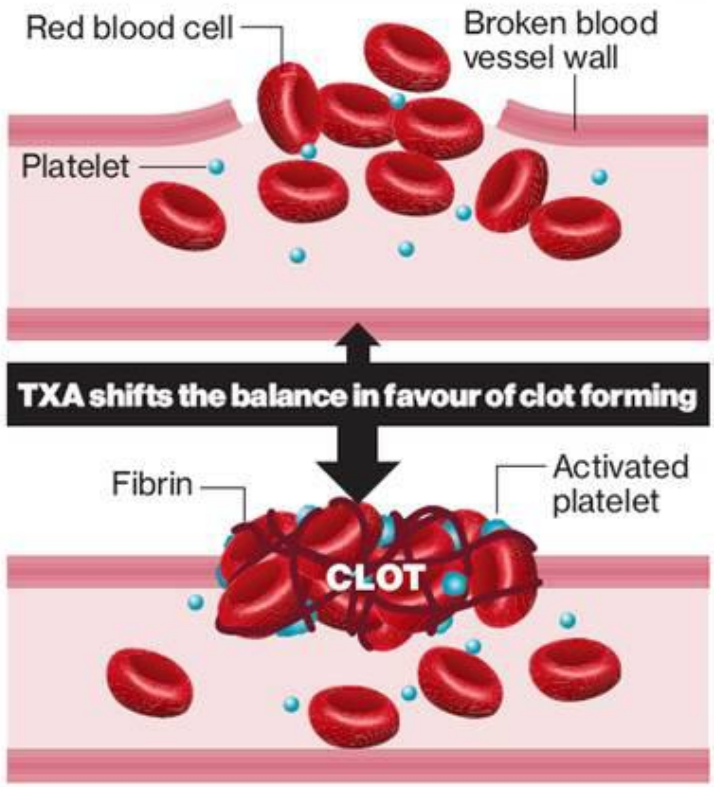
## variation reduction project

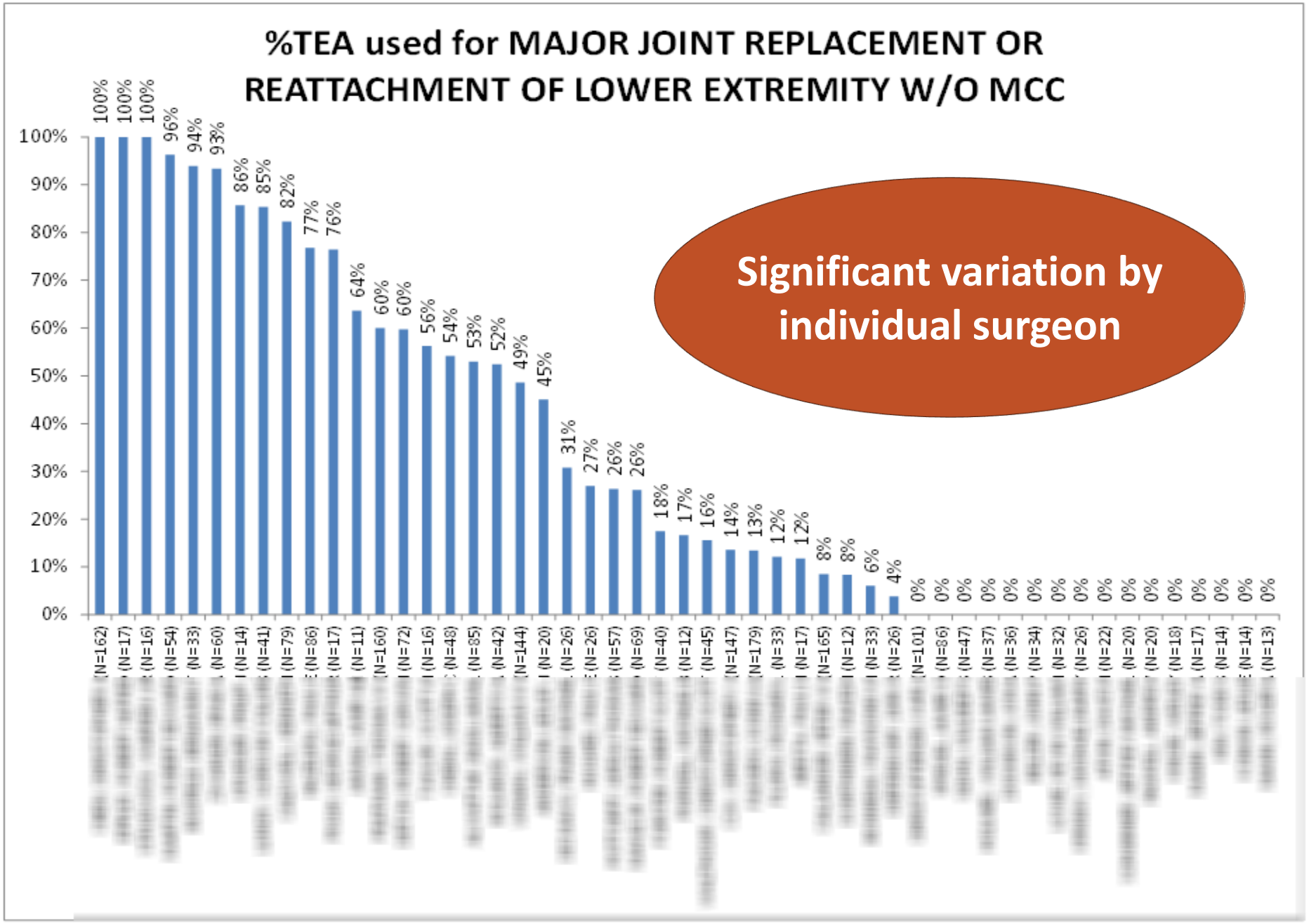

*Ortho Chief: Can be given in the wound, or injected IV – no standardization yet*

## LIFE-SAVER HOW THE NEW DRUG WORKS

**TXA was developed for use on the battlefields in Afghanistan, and becomes the first drug to be fast-tracked for use in the NHS under the Government's 'medicines innovation scheme'**

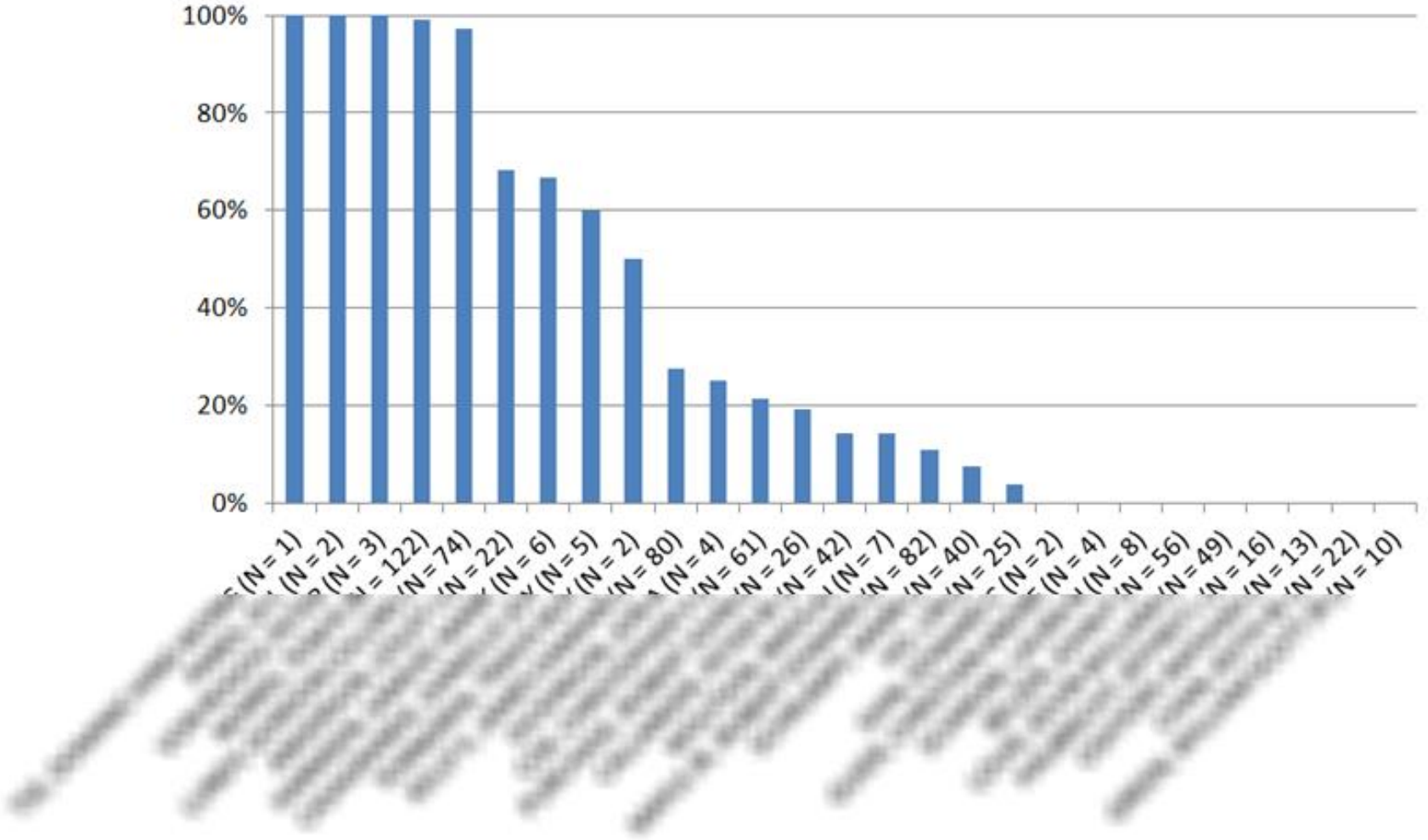
**Blood clotting** involves a complicated interaction between red cells, platlets and a blood protein called fibrin which binds the clot together. Transexamic acid (TXA), known by its tradname Cyklokapron, speeds up the process of blood clotting by preventing the breakdown of fibrin. Normally, blood clotting is limited by a substance called plasmin, which dissolves clots, but transexamic acid blocks the formation of plasmin and so speeds up clotting.




%TEA used for MAJOR JOINT REPLACEMENT OR REATTACHMENT OF LOWER EXTREMITY W/O MCC
Significant variation by individual surgeon
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
100% 100% 100% 96% 94% 93% 86% 85% 82% 77% 76% 64% 60% 60% 56% 54% 53% 52% 49% 45% 31% 27% 26% 26% 18% 17% 16% 14% 13% 12% 12% 8% 8% 6% 4% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0%

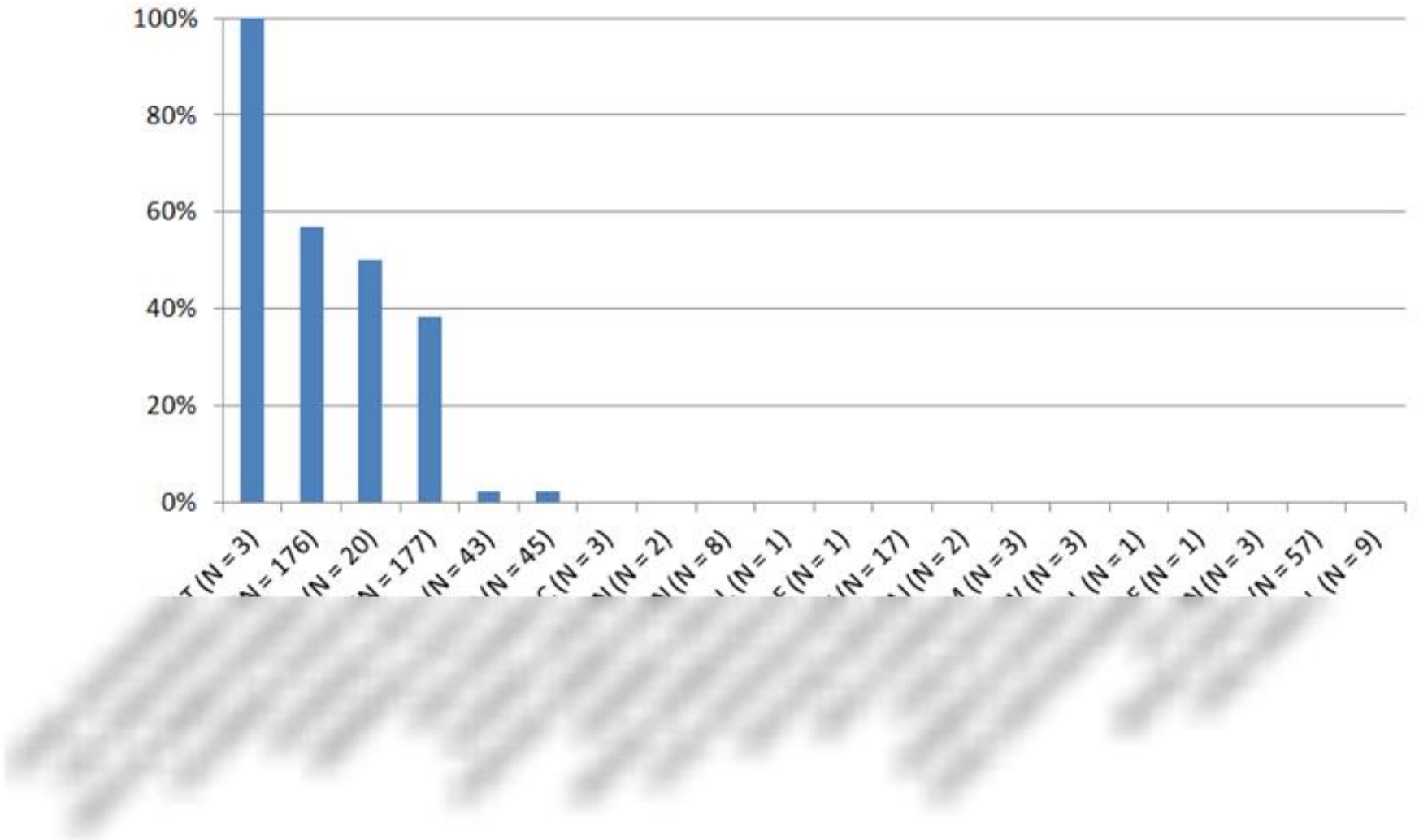
# Percent of patients that received TXA for major orthopedic procedures:

## Hospital 1



# Percent of patients that received TXA for major orthopedic procedures

## Hospital 2



## Orthopedics

*Increase use of tranexamic acid (TXA) for patients undergoing major orthopedic procedures*

*Project Lead: [redacted] M.D.*

*Project Start: April 28, 2015*

*VR Project Standard: For patients undergoing knee arthroplasty, fracture or dislocation of hip and femur, total or partial hip replacement, shoulder or spinal procedures, administer tranexamic acid (TXA) intraoperatively to all patients. View Charter*

***Printable Format (Chart Only)***

**Key success measure: Percent of patients that received TXA for major orthopedic procedures**

- Trend
- Before and after by clinician
- Before and after by department/ care center

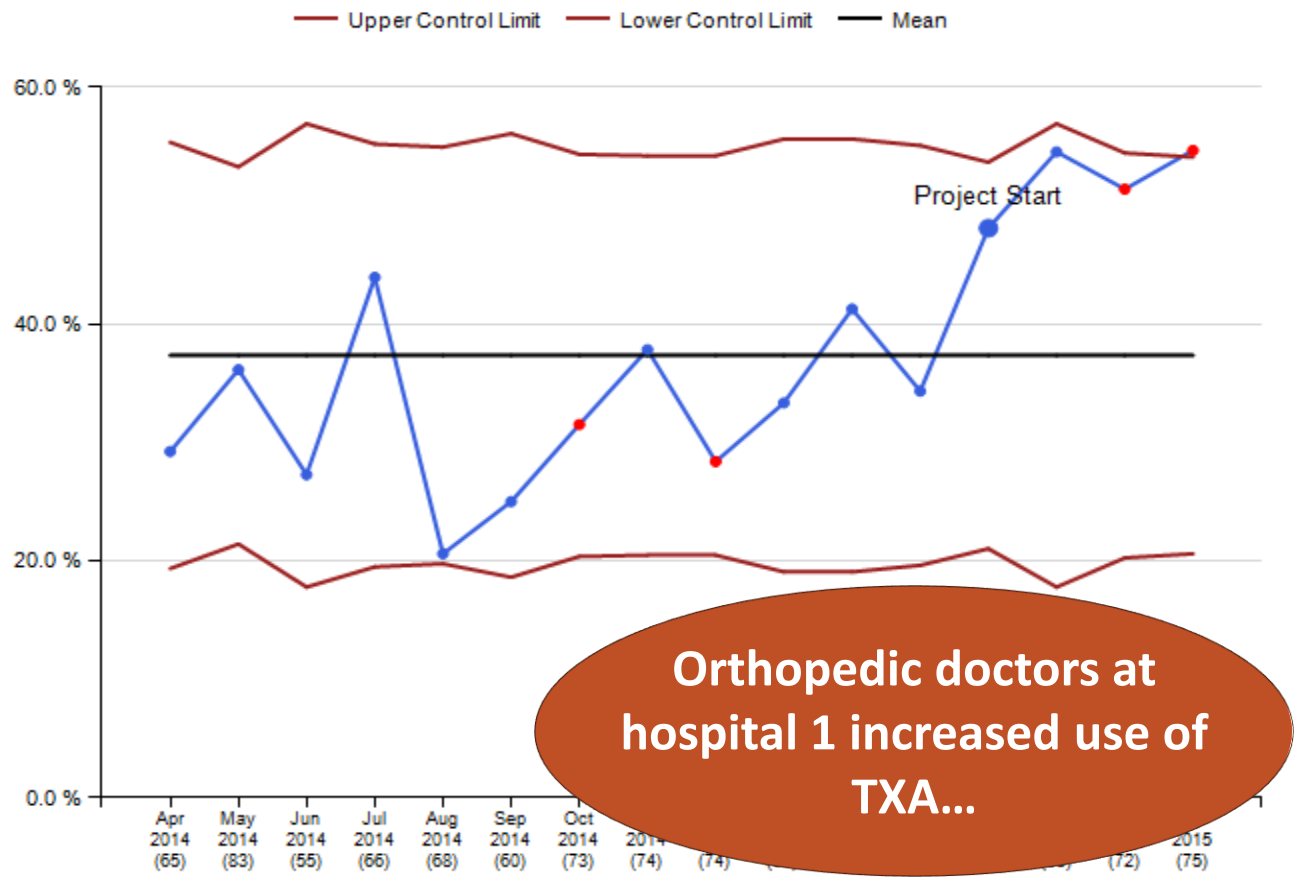
**Additional measure: Percent of patients that received TXA for total or partial hip replacement**

- Trend
- Before and after by clinician
- Before and after by department/ care center

**Additional measure 2: Percent of patients that received TXA for knee arthroplasty**

### PERCENT OF PATIENTS THAT RECEIVED TXA FOR MAJOR ORTHOPEDIC PROCEDURES

| Baseline | Performance since project start | Current | Savings | Status |
|---|---|---|---|---|
| 33 % | 52 % | 55 % | $0 | High performer (rate exceeds 75th percentile) achieved statistically significant improvement |




**Orthopedic doctors at hospital 1 increased use of TXA…**

**Measure criteria**

Denominator: Count of patients that had major orthopedic procedures in the measurement month

Numerator: Count of patients that received TXA for major orthopedic procedures in the measurement month

## [redacted]edical Staff Orthopedics

*Increase use of tranexamic acid (TXA) for patients undergoing major orthopedic procedures*

*Project Lead: [redacted] M.D.*

*Project Start: April 28, 2015*

*VR Project Standard: For patients undergoing knee arthroplasty, fracture or dislocation of hip and femur, total or partial hip replacement, shoulder or spinal procedures, administer tranexamic acid (TXA) intraoperatively to all patients. View Charter*

***Printable Format (Chart Only)***

**Key success measure: Percent of patients that received TXA for major orthopedic procedures**

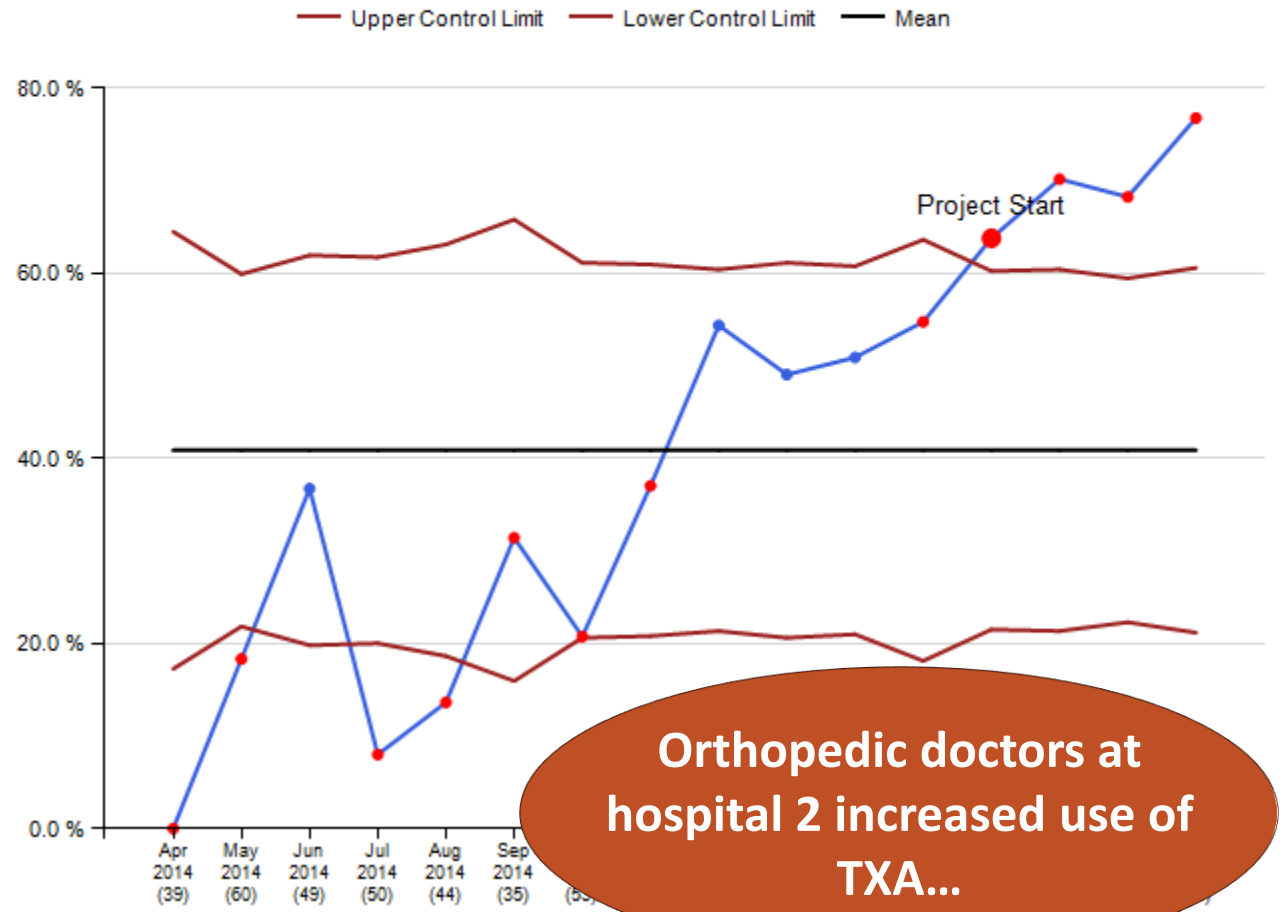
- Trend
- Before and after by clinician
- Before and after by department/ care center

**Additional measure: Percent of patients that received TXA for total or partial hip replacement**

- Trend
- Before and after by clinician
- Before and after by department/

### PERCENT OF PATIENTS THAT RECEIVED TXA FOR MAJOR ORTHOPEDIC PROCEDURES

| Baseline | Performance since project start | Current | Savings | Status |
|---|---|---|---|---|
| 32 % | 70 % | 77 % | $0 | High performer (rate exceeds 75th percentile) achieved statistically significant improvement |




**Orthopedic doctors at hospital 2 increased use of TXA…**

## Orthopedics

*Reduce use of packed red blood cell (PRBC) transfusions for patients undergoing major orthopedic procedures*

*Project Lead:* [redacted] *M.D.*

*Project Start: April 28, 2015*

*VR Project Standard: For patients undergoing knee arthroplasty, fracture or dislocation of hip and femur, total or partial hip replacement, shoulder or spinal procedure, do not transfuse unless clinically indicated.* View Charter

***Printable Format (Chart Only)***

**Key success measure: Percent of patients that received PRBC transfusion for major orthopedic procedures**

- Trend
- Before and after by clinician
- Before and after by department/ care center

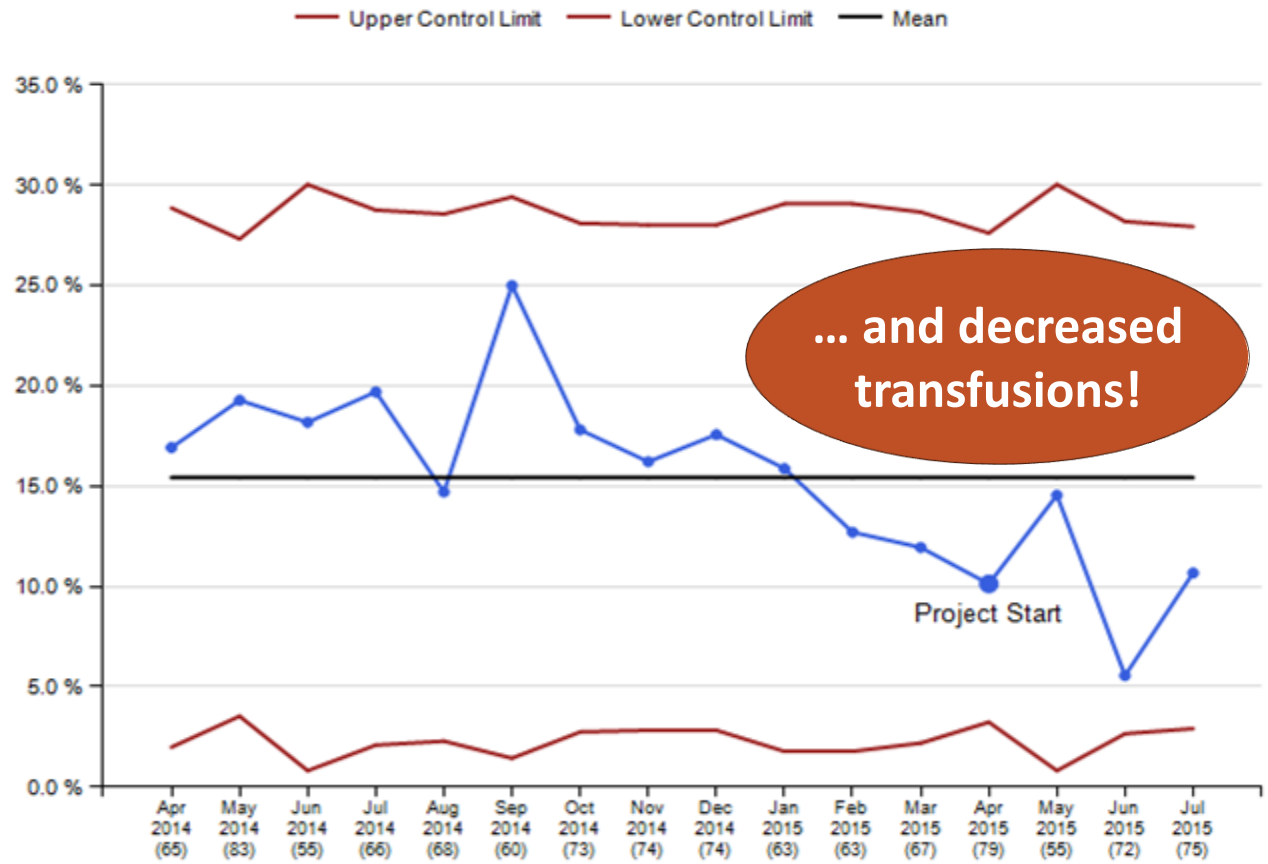
**Savings measure: Average cost per patient undergoing major orthopedic procedures for PRBC transfusions**

- Trend
- Before and after by clinician
- Before and after by department/ care center

**Balance measure: Average length of stay for patients undergoing major orthopedic procedures**

### PERCENT OF PATIENTS THAT RECEIVED PRBC TRANSFUSION FOR MAJOR ORTHOPEDIC PROCEDURES

| Baseline | Performance since project start | Current | Savings | Status |
|---|---|---|---|---|
| 17 % | 10 % | 11 % | $37,973 | Monitoring (newly launched) |




**Measure criteria**

Denominator: Count of patients that had major orthopedic procedures in the measurement month

Numerator: Count of patients that received PRBC transfusion for major orthopedic procedures in the measurement month

## [redacted]edical Staff Orthopedics

*Reduce use of packed red blood cell (PRBC) transfusions for patients undergoing major orthopedic procedures*

*Project Lead: [redacted] M.D.*

*Project Start: April 28, 2015*

*VR Project Standard: For patients undergoing knee arthroplasty, fracture or dislocation of hip and femur, total or partial hip replacement, shoulder or spinal procedure, do not transfuse unless clinically indicated.* *View Charter*

***Printable Format (Chart Only)***

**Key success measure: Percent of patients that received PRBC transfusion for major orthopedic procedures**

- Trend
- Before and after by clinician
- Before and after by department/ care center

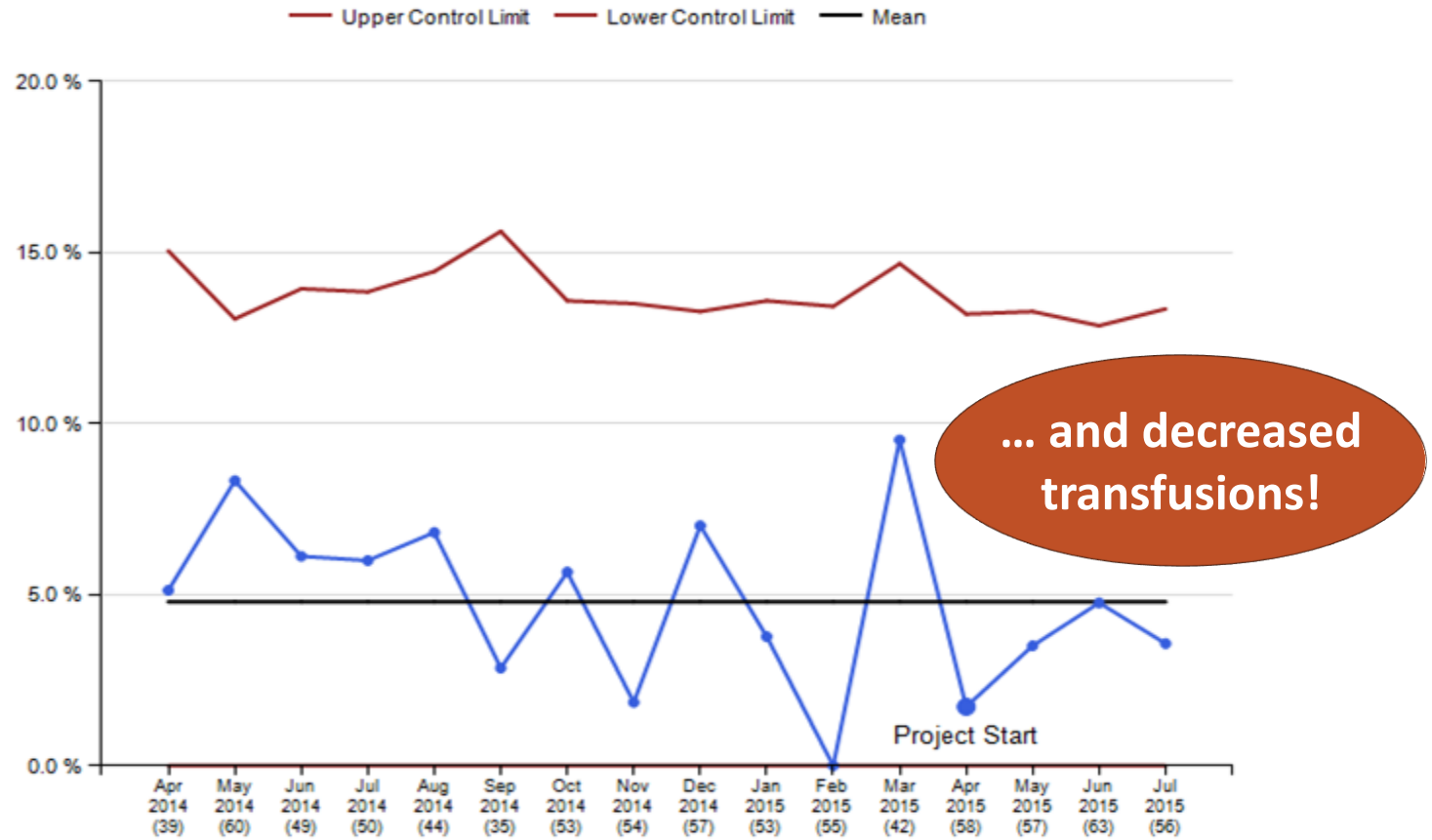
**Savings measure: Average cost per patient undergoing major orthopedic procedures for PRBC transfusions**

- Trend
- Before and after by clinician
- Before and after by department/ care center

**Balance measure: Average length of stay for patients undergoing major orthopedic procedures**

### PERCENT OF PATIENTS THAT RECEIVED PRBC TRANSFUSION FOR MAJOR ORTHOPEDIC PROCEDURES

| Baseline | Performance since project start | Current | Savings | Status |
|---|---|---|---|---|
| 5 % | 3 % | 4 % | $4,629 | High performer (rate exceeds 75th percentile) |




**… and decreased transfusions!**

**Measure criteria**

Denominator: Count of patients that had major orthopedic procedures in the measurement month

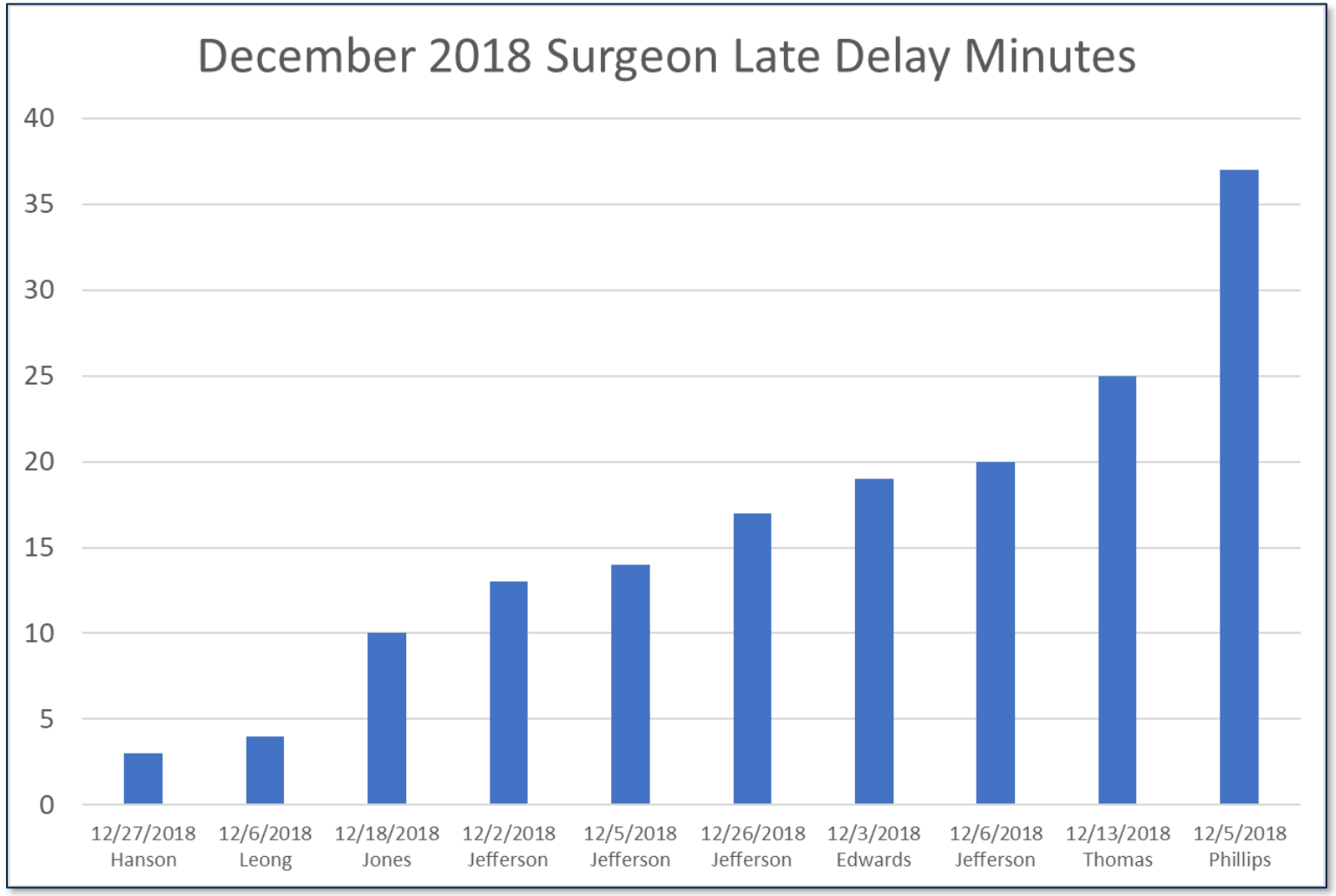
Numerator: Count of patients that received PRBC transfusion for major orthopedic procedures in the measurement month

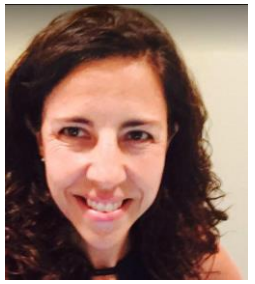
# On Time Start

## variation reduction project

# Mellissa Coy, Director of Surgical Services

## “Communication strategies to improve first-case on-time starts”



“Displaying names alone helped those who needed a gentle nudge.”

Lean and Communication Strategies to Improve First-Case On-Time Starts into the Operating Room. Melissa Coy: Operating Room Clinical Manager, Bay Area Hospital. Grand Canyon University NRS-441V: Capstone Project. Instructor: Professor Kathy Skromme. January 9, 2015

# CT Scans in Urgent Care

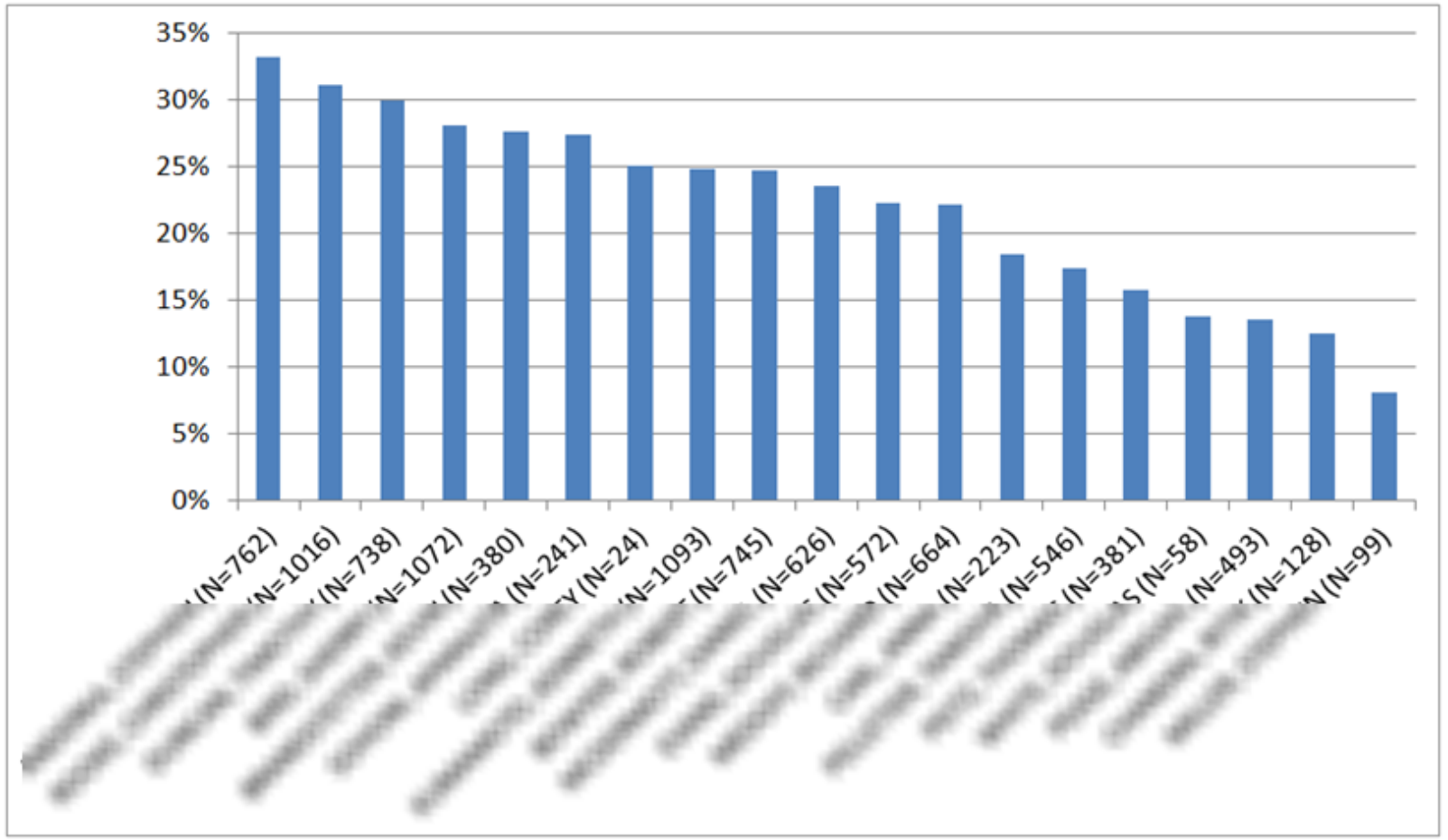
## variation reduction project

# Useful phrases

- "Hmmm……."
- "What does this tell us?"
- "Does anyone see a pattern?"
- "Is this surprising?"
- "Is this what you expected?"
- "I wonder what the right thing to do is?"
- "Is there something that could explain [high outliers]?"
- "What can we learn from [low outliers]?"

# Data presented to ED physicians

## Percent of patients who received CT scan in ED




**All diagnoses included. Time frame November 1, 2013 – September 30, 2014**

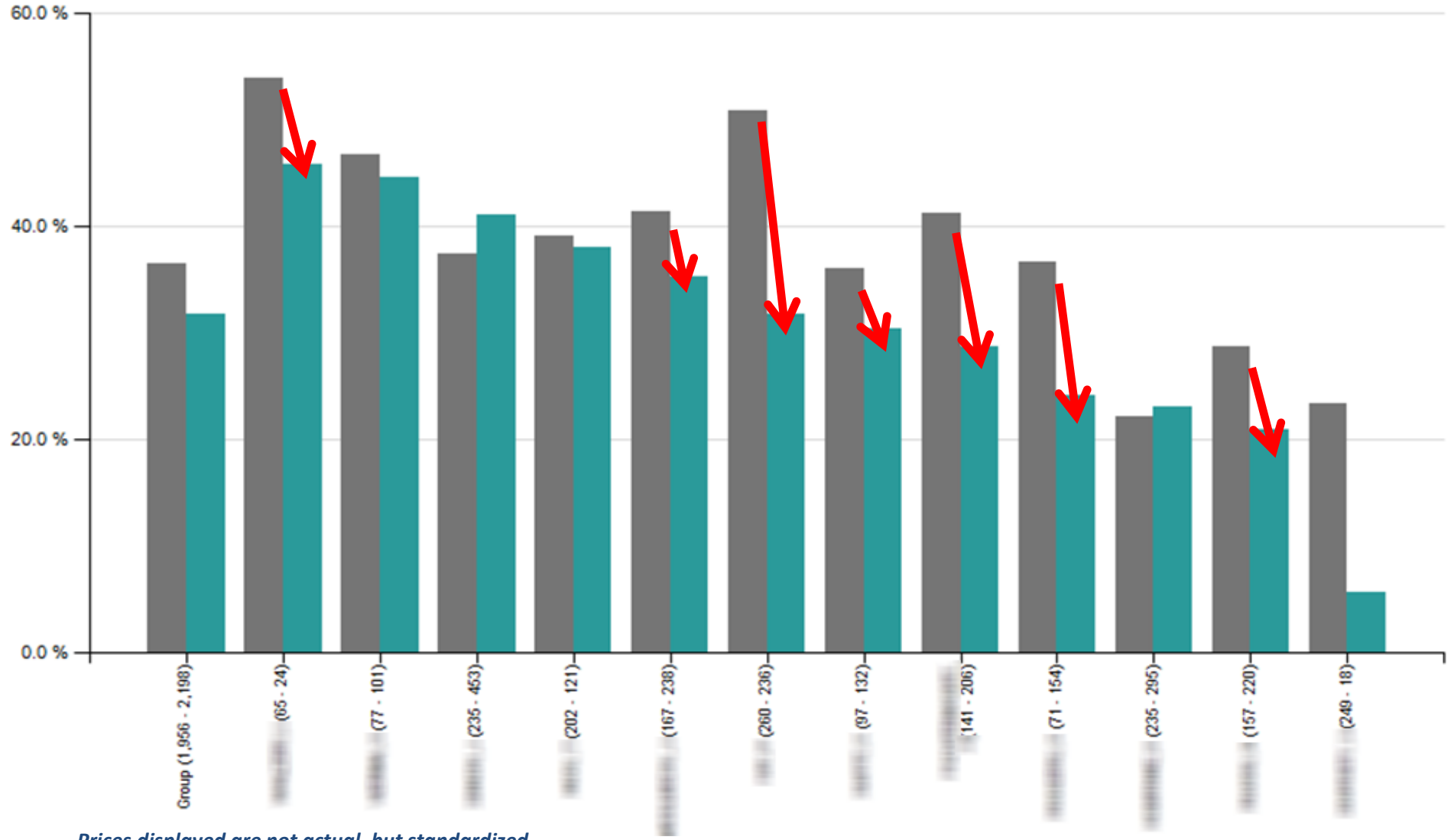
# Clinician feedback

- *"We had no idea!"*

- *"Some of these were required for the admission…"*
- *"What about the ones that were positive?"*
- *Need to do "severity adjustment" → Count only the non-admitted patients*

## PERCENT OF PATIENTS WITH ABDOMINAL PAIN WHO RECEIVED A CT SCAN

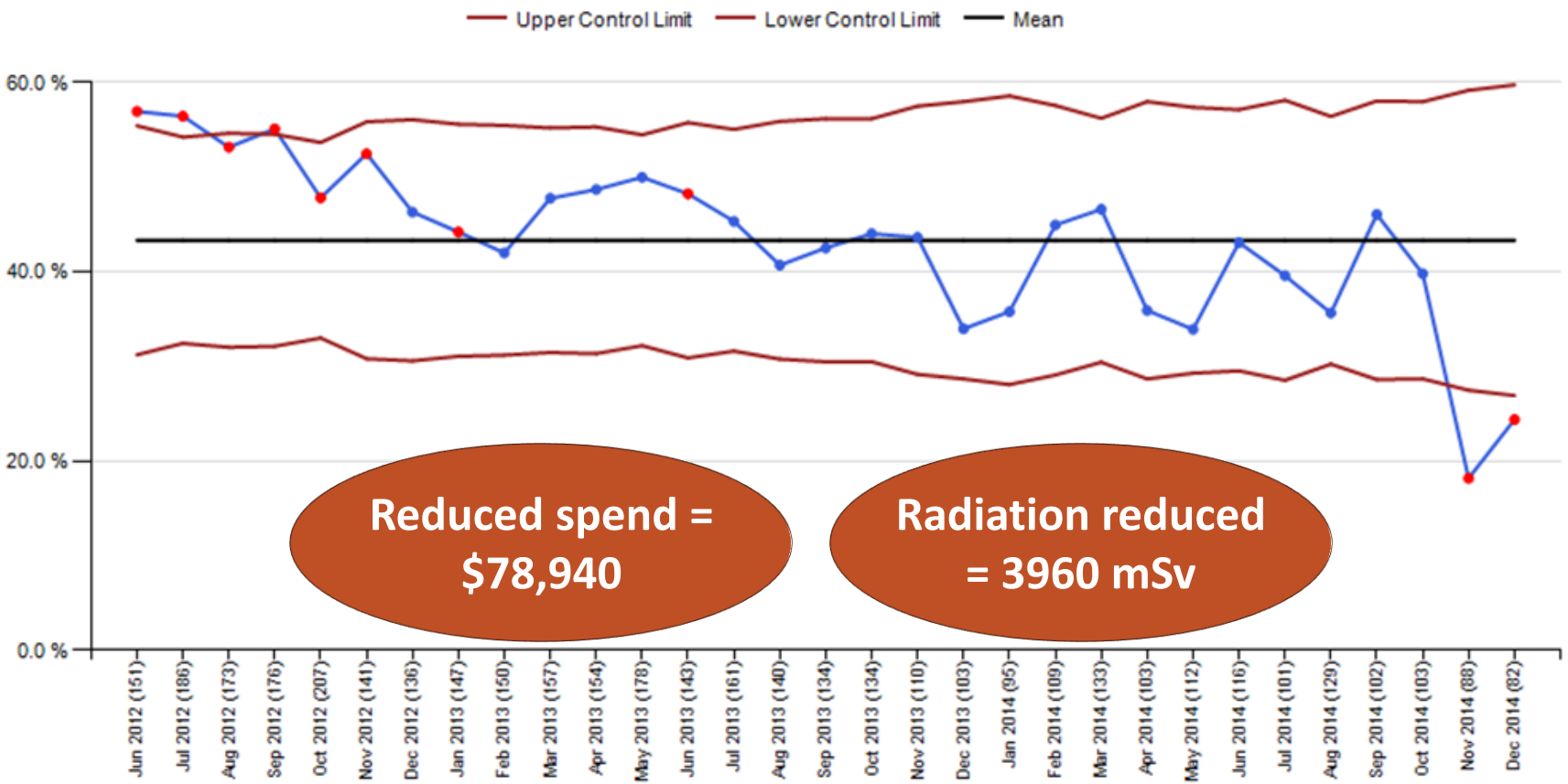
| Baseline | Performance since project start | Current | Savings | Status |
|---|---|---|---|---|
| 36 % | 32 % | 18 % | $78,940 | Achieved statistically significant improvement |




*Prices displayed are not actual, but standardized.*

## PERCENT OF PATIENTS WITH ABDOMINAL PAIN WHO RECEIVED AN IMAGING STUDY (COMBINED X-RAY AND CT SCAN)

| Baseline | Performance since project start | Current | Savings | Status |
|---|---|---|---|---|
| 50 % | 40 % | 24 % | $78,940 | Achieved statistically significant improvement |




**Measure criteria**

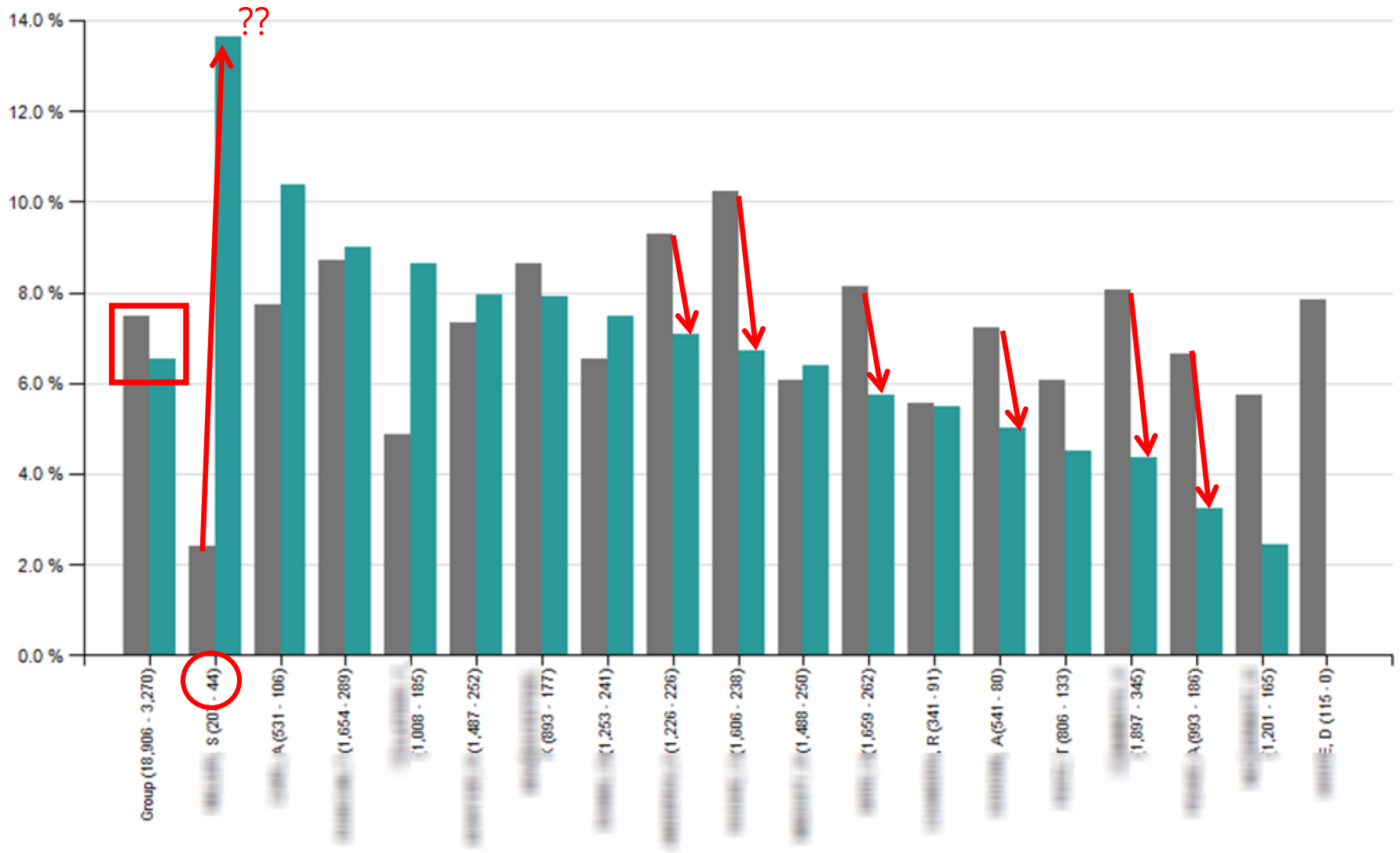
Denominator: Count of all patients with an urgent care visit for abdominal pain in the measurement month

Numerator: Count of patients with an order for an x-ray or CT scan with a diagnosis of abdominal pain in the measurement month

*Prices displayed are not actual, but standardized.*

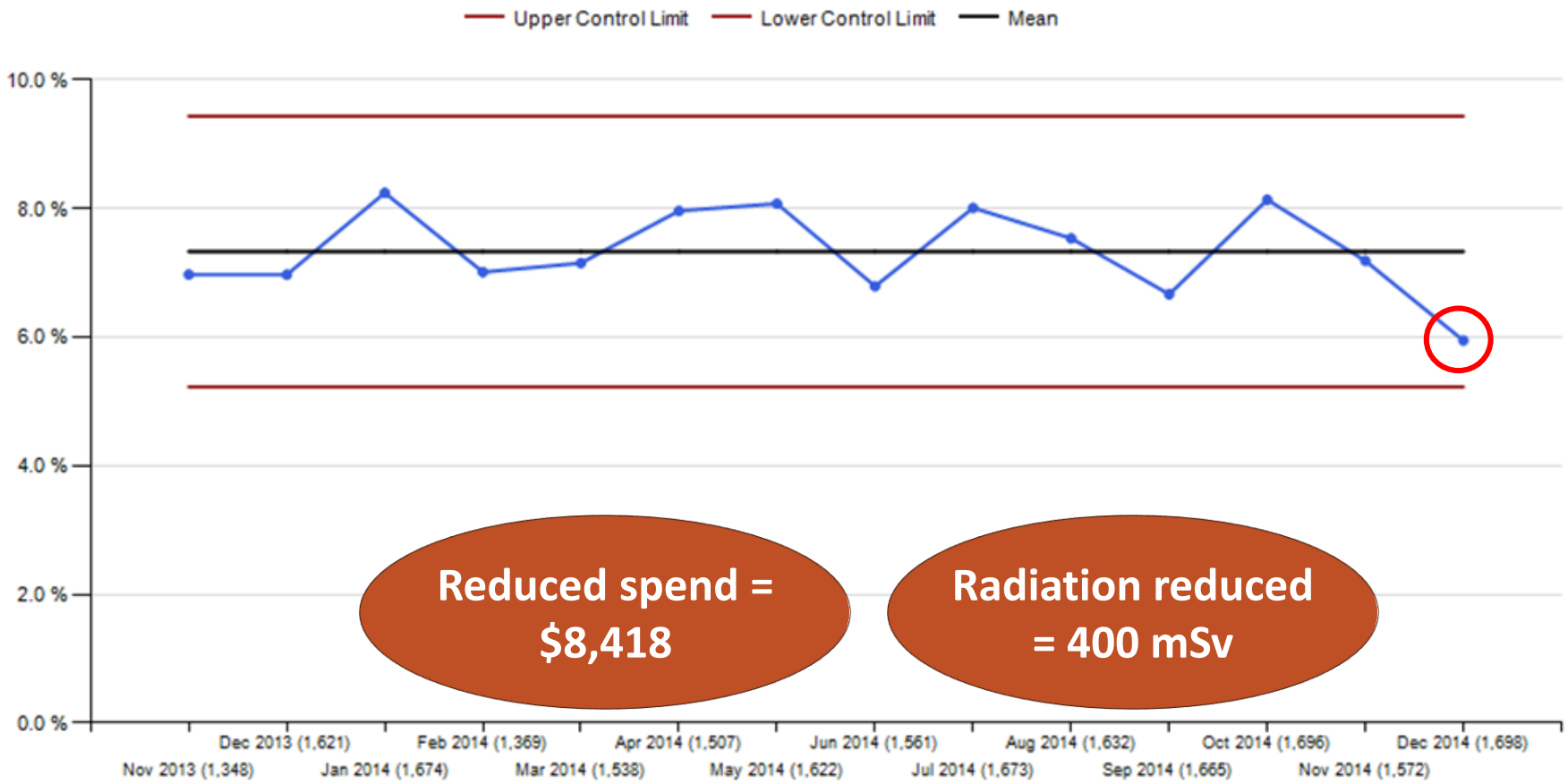
## PERCENT OF PATIENTS SEEN IN THE ED WHO RECEIVED AN ABDOMINAL CT SCAN FOR NON-ADMITTED PATIENTS

| Baseline | Performance since project start | Current | Savings | Status |
|---|---|---|---|---|
| 7 % | 7 % | 6 % | $8,418 | Achieved statistically significant improvement |



## PERCENT OF PATIENTS SEEN IN THE ED WHO RECEIVED AN ABDOMINAL CT SCAN FOR NON-ADMITTED PATIENTS

| Baseline | Performance since project start | Current | Savings | Status |
|---|---|---|---|---|
| 7 % | 7 % | 6 % | $8,418 | Achieved statistically significant improvement |




**Measure criteria**

Denominator: Count of all patients with an emergency department visit who were discharged home in the measurement month

Numerator: Of the patients in the denominator, count of patients who received an abdominal CT scan

# Art of Meeting Facilitation

## variation reduction project

# When meeting with doctors…

…bring multiple ideas


DR. HUTCHINSON HAD A UNIQUE WAY OF SHOOTING DOWN EXECUTIVE'S IDEAS

# How to Scale this Up?

## Beyond face to face meetings

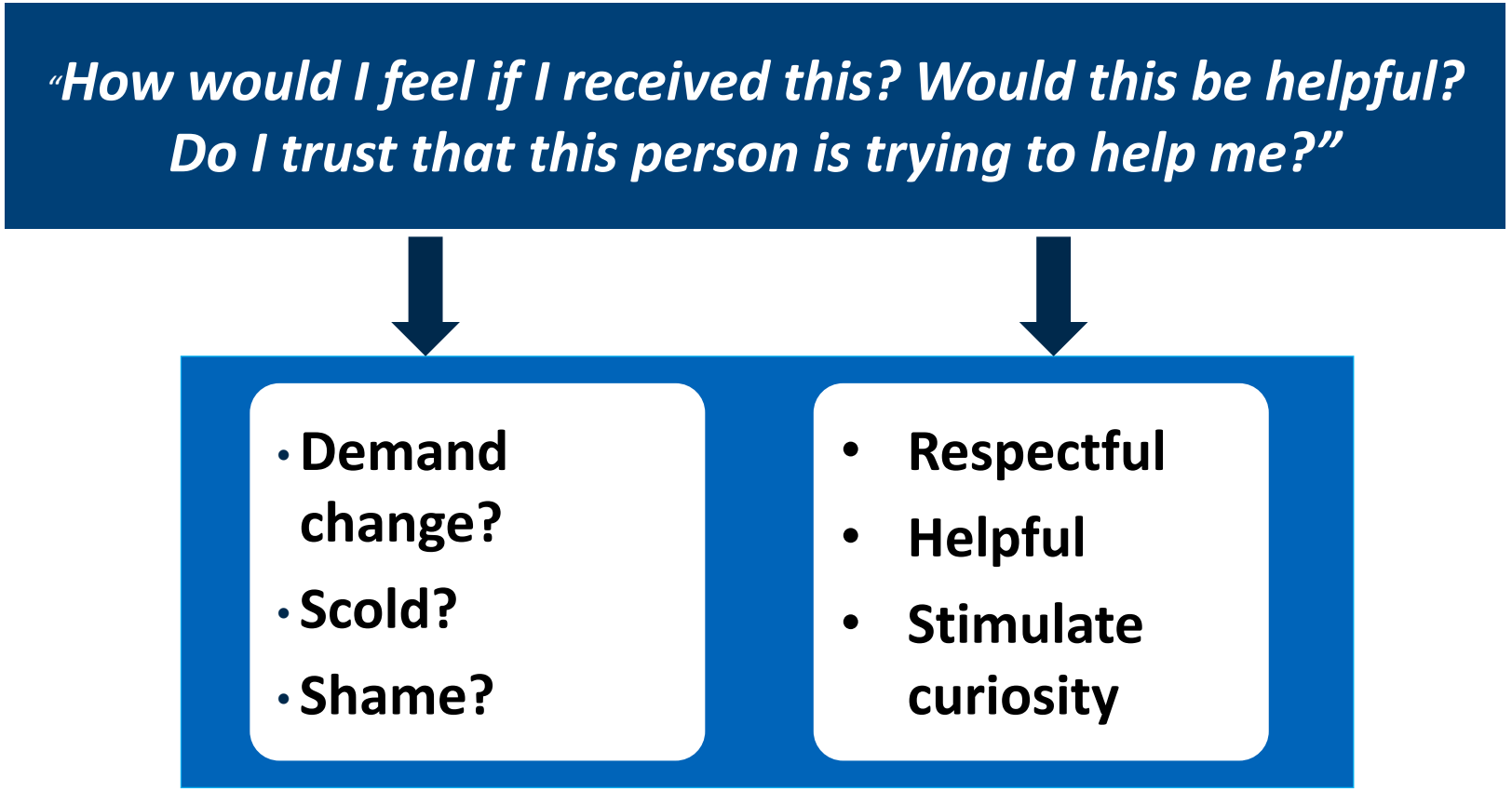
# Ways to learn new practice styles

- *CME conference in Hawaii*
- *Online review course*
- *Read journal*
- *Attend grand rounds*
- *From a pharma sales rep*
- *Email sent by my dept chair*
- *Message posted in the break room*
- **From a mentor/friend I trust and respect**
- **Being convinced I need to change**

# Ways to deliver the peer comparison

- In scheduled meetings (department meetings)
- 1:1 coaching/counseling with leader
- Posted on the wall (?!)
- Special meeting (Pizza lunch)
- Online dashboards
- Dashboards in the EHR
- At the point of decision making? (Amazon)
- Through the patient (!)
- SMS message

# What is the tone/intent of the message?



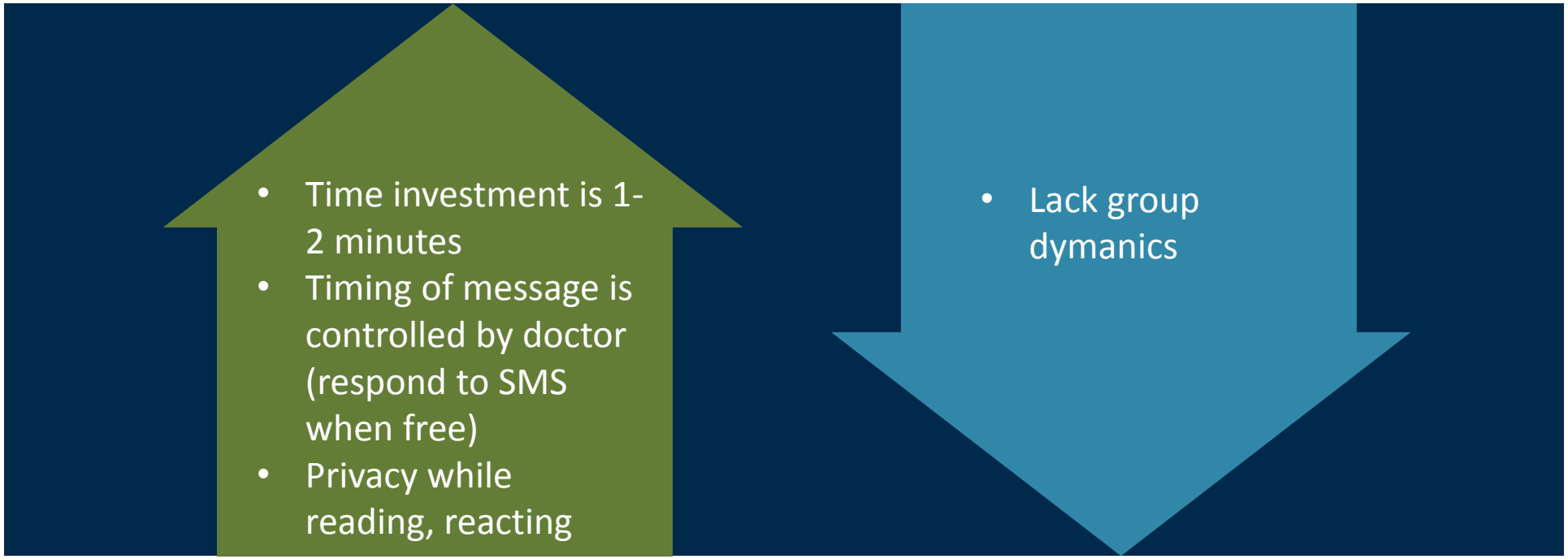
# Ideal method – manager's criteria

# Clinician criteria

What earns a physician's attention?

1. Relevant to me personally
   (I can trust that the data is really about me)
2. Immediately useful
   (Can I do something with this?)
3. Compelling, interesting, stimulates curiosity
   (click bait, entertaining)
4. Respectful, helpful
   (Do I trust the motives of the sender?)
5. Message is in line with my values
   (quality, patient care, ongoing learning)

# Benefits of using text messaging



# Exploration of text message

## Beyond face to face meetings

# Could this work via text message?


PUBLICIS HEALTH

PART 1 2 3 4 5 6 7

# Millennials in Medicine

## THE NEW FACES OF HEALTHCARE

The healthcare landscape is launching head-first into a new era.

**WHAT'S PROPELLING IT?**

- Failing traditional health model
- Groundbreaking technology
- Shifting standards of care
- Evolving healthcare provider (HCP) profiles

How Millennial Doctors Are Transforming Medicine


# What do physicians of the future look like?

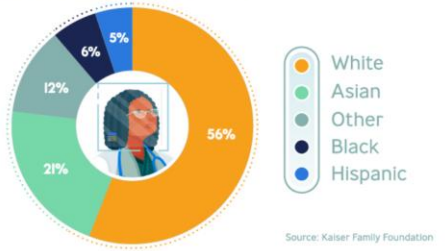
When most people think of a doctor, the image of a white, male baby boomer typically comes to mind.

## However, today's HCPs no longer reflect this image.

The emerging generation of doctors are:

### 1 INCREASINGLY DIVERSE

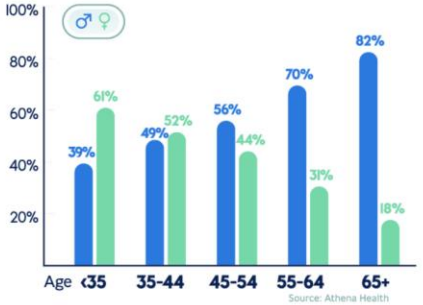
2018 U.S. Medical School Graduates




Source: Kaiser Family Foundation

### 2 MILLENNIAL WOMEN

The proportion of female physicians has increased over time.




Source: Athena Health

### 3 DIGITAL-FOCUSED

They are familiar with electronic health records (EHRs), digital diagnostic tools, and telemedicine.

By 2025, this will become the new normal. As this new generation of doctors dons the white coat, they are accelerating change in the healthcare industry.

# How do these new doctors work?

Most of them are inspired to enter medicine to change lives, with a passionate mindset to "do good."


At the same time, they also face financial pressures, such as an average of $190,000 in student loan debt.

As a result, they have very different career trajectories from their predecessors.

**LAST YEAR, A MAJORITY OF 8,700 SURVEYED DOCTORS WORKED IN HEALTH SYSTEMS, COMPARED TO PRIVATE PRACTICES.**

**49.1%**
**WORK IN HOSPITALS OR MEDICAL GROUPS**

They are also more likely to be younger:

53% are 45 years or younger

28.9% are older than 45 years


**31.4%**
**ARE OWNERS OF A PRIVATE PRACTICE**

This is a decline from:

| 2012 | 2014 | 2016 |
|---|---|---|
| 48.5% | 34.6% | 32.7% |

*The average cost to start a private practice is $70,000–$100,000.*

Source: AAMC, Physicians Foundation 2018 Survey, Doctorly

## Hospital employment has become the new norm—

but the once-dominant healthcare model is dead. In its place, a shift from paternalism to partnership and a new digital era are making waves.

### 1 FROM PATERNALISM TO PARTNERSHIP

Shifting practices are a key trend with new HCPs and patient interaction.

**Old healthcare hierarchy**



Health system and doctor above, patient below

**New healthcare hierarchy**

Interconnected ecosystems of healthcare influencers

### 2 A NEW DIGITAL ERA

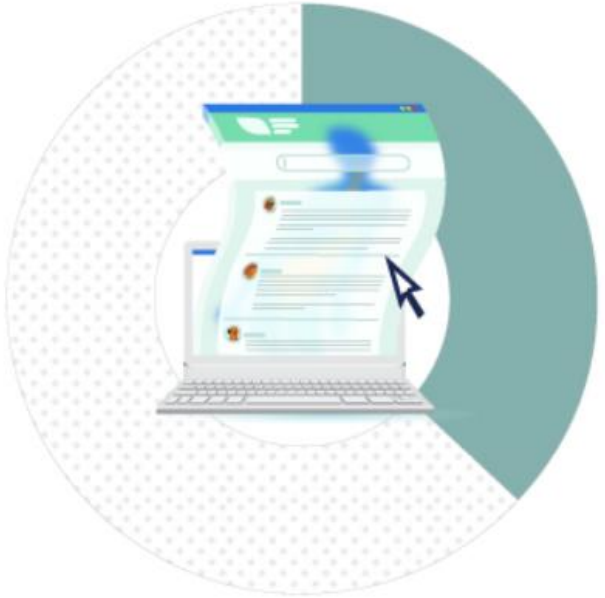
Doctors are under tremendous pressure to know as much as they can, as quickly as they can—and to communicate that information to both their patients and their employers.

# It's no surprise then that physicians are logging more screen time than ever before.

## 8+ hours a day are spent on...

**5 hours**
using EHRs

**3 hours**
consulting external search websites



**37%**
also use HCP social networks and message boards weekly

*Only 25% of their peer physicians who are aged 55+ use the same networks and message boards weekly.*

Source: DRG Digital

**The good news?** Millennial doctors are digital natives, and accustomed to using these tools to simplify their workflow and improve outcomes.

# HCPs in a transformed healthcare ecosystem


The business of healthcare is changing drastically. These doctors are making decisions in an entirely new environment.


## 1 PHYSICIAN SCRUTINY

The new generation of doctors are hyper-aware that they're always being rated.



**77% OF PATIENTS** use online reviews as their first step in finding a new doctor.

**80% OF CONSUMERS** trust online reviews as much as personal recommendations.

**60% OF CONSUMERS** need to read four or more reviews before forming an opinion.

Source: Wainscot Media, Software Advice

## 2 THE INFORMATION FIRE HOSE

Physicians are consumers too—they're also constantly absorbing and filtering an incredible amount of information, from multiple media sources.

As the lines between their traditional work setting and everyday lives become increasingly blurred, they can be more easily reached:

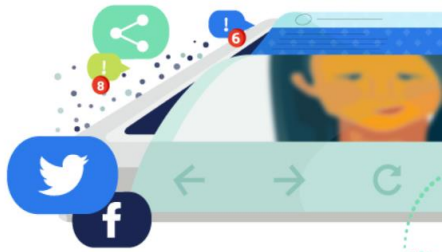
**"BLUE JEANS" MOMENTS:** social media apps

New physicians are more apt to stay engaged with patients.

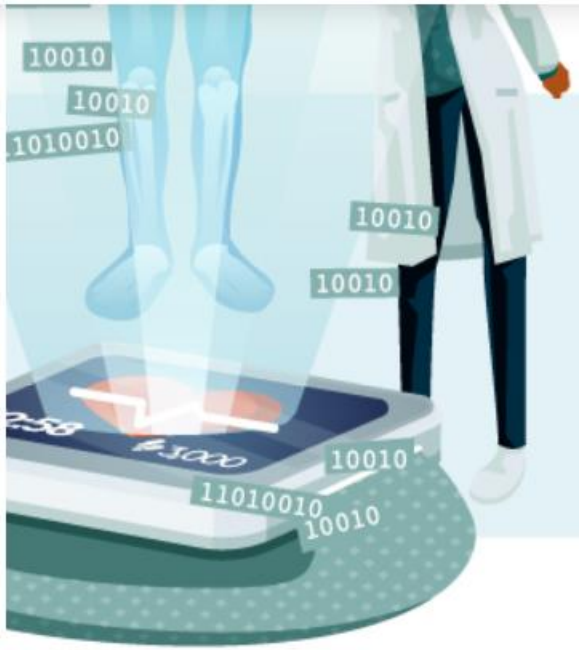
**"WHITE COAT" PERSONA:** EHRs, telemedicine

New physicians are familiar with practicing using digital tools.

**HERE'S THE CATCH:** There are more opportunities and platforms to connect with physicians, but capturing attention amidst growing content streams is a challenge.



**New communication strategies must take these dynamics into consideration.**




# New communication strategies must take these dynamics into consideration.

## How is the industry trying to bridge

**ACTIONABLE DATA**
Tools and practices that simplify and visualize data

**PROVIDING CREDIBLE CHANNELS**
Linking with authoritative healthcare influencers

**ONE-TO-ONE COMMUNICATION**
Building personalized channels with HCPs

**PATIENT-CENTRIC TOOLS**
Empowering patients to take control of their health


"Catching this moving target is going to require stepping up our game in a major way. Tools to execute on these demands—built with purpose and with this new healthcare landscape in mind."

**– Lyn Falconio, CMO**

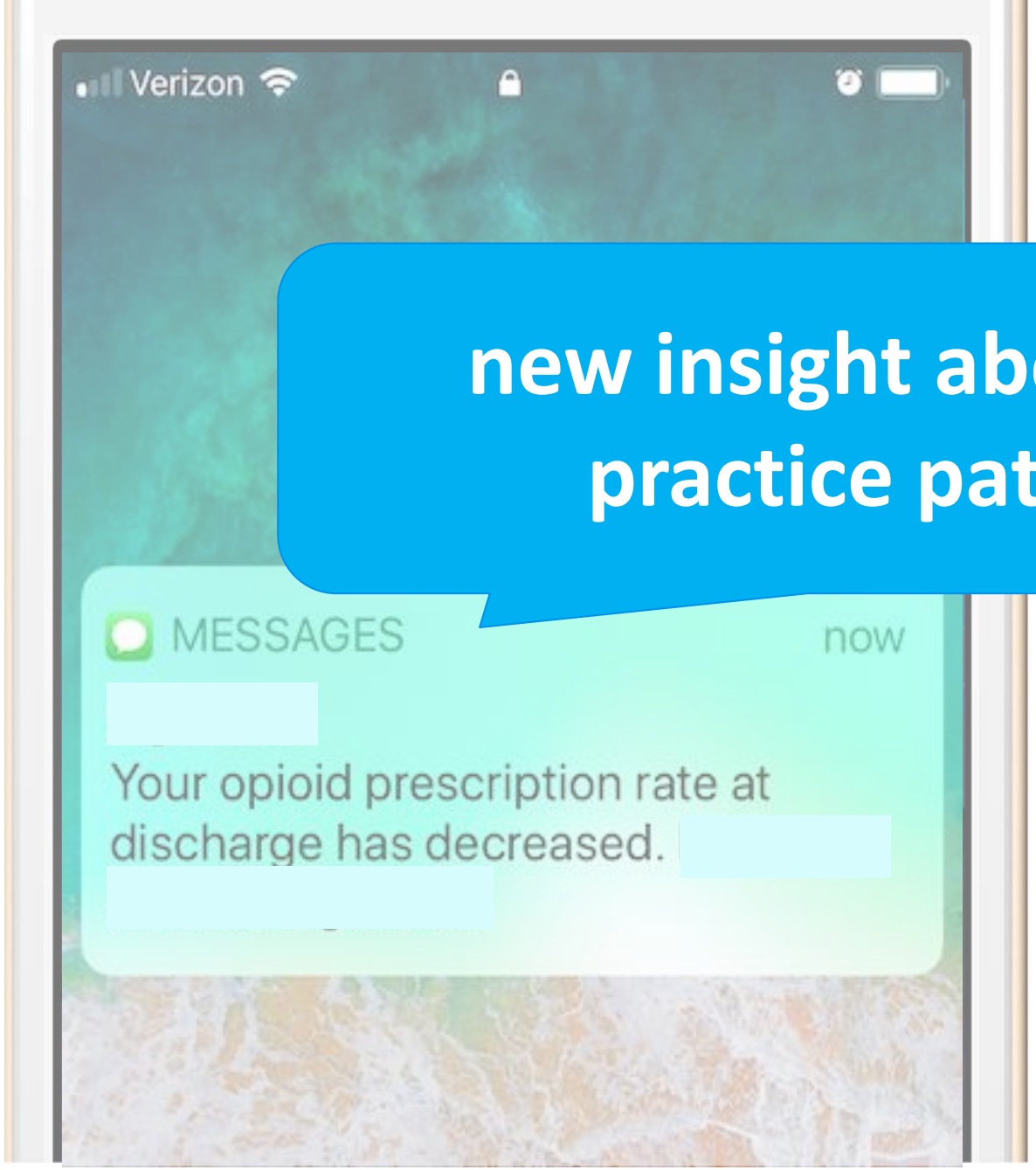
Publicis Health

# As the new faces of healthcare, millennial doctors are disrupting the industry.

New tools must be leveraged to reach the right physicians and their patients, at the right time.

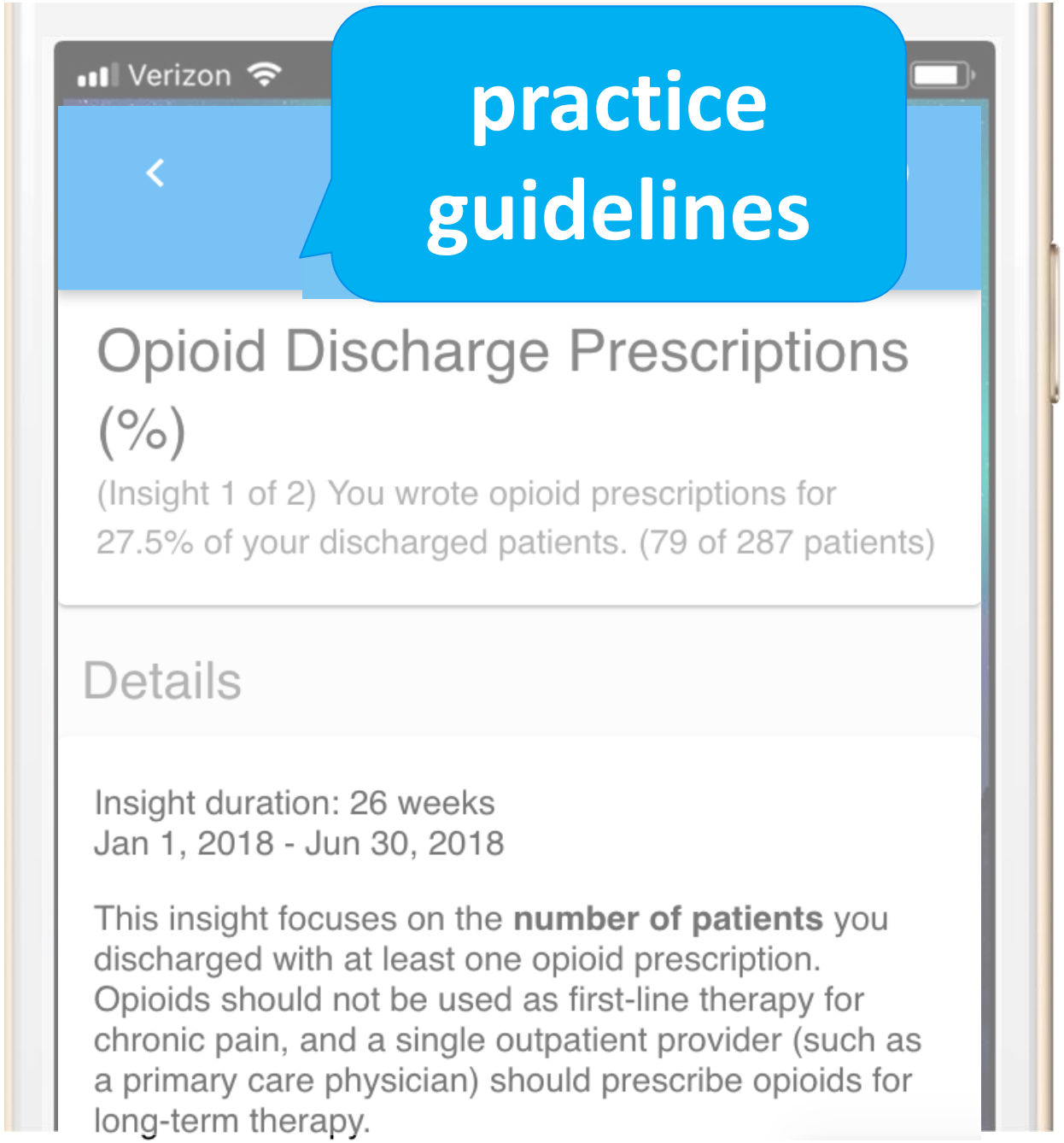
# Phone delivery mechanism

# USER FLOW

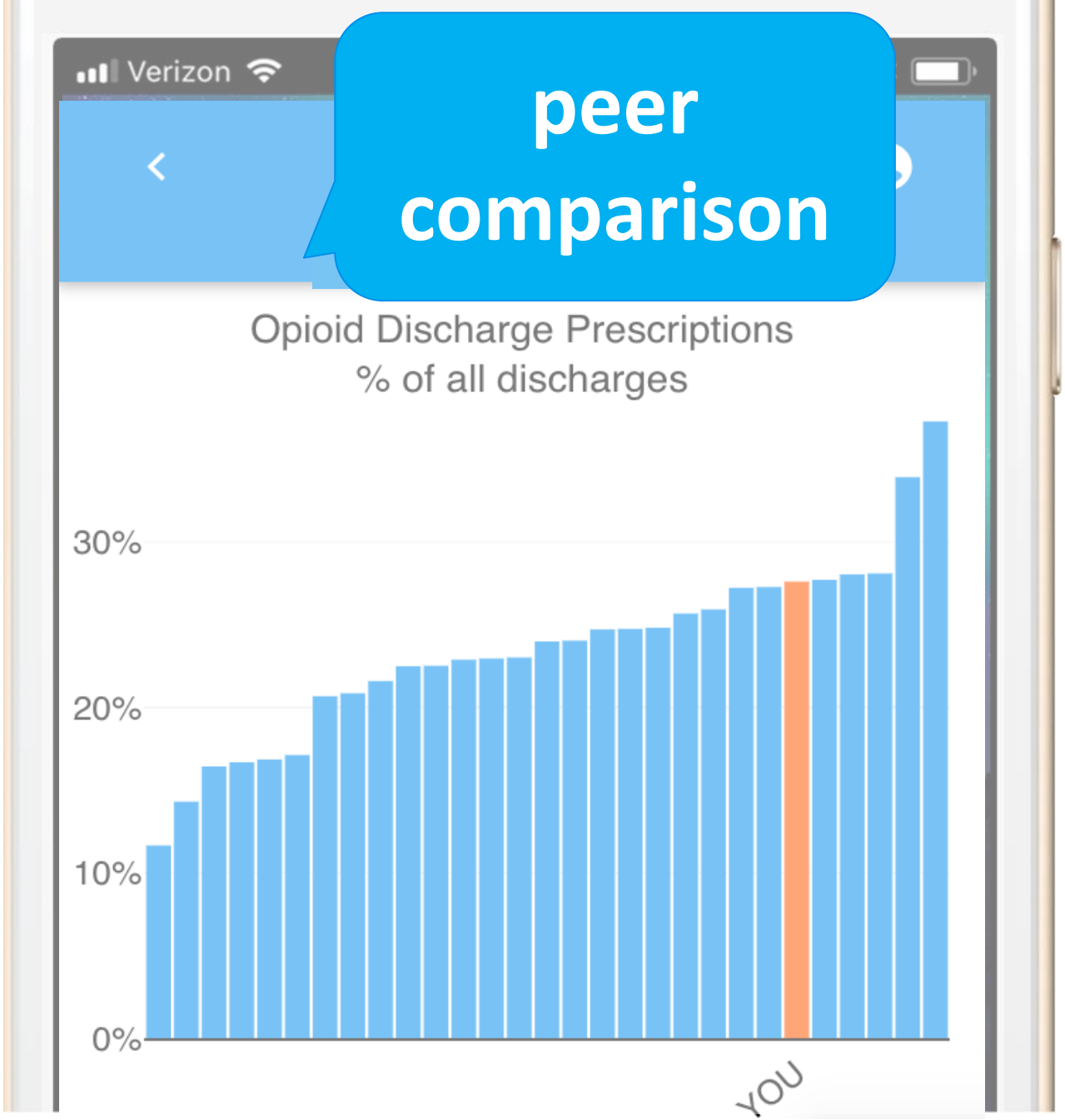



**new insight about your practice patterns**

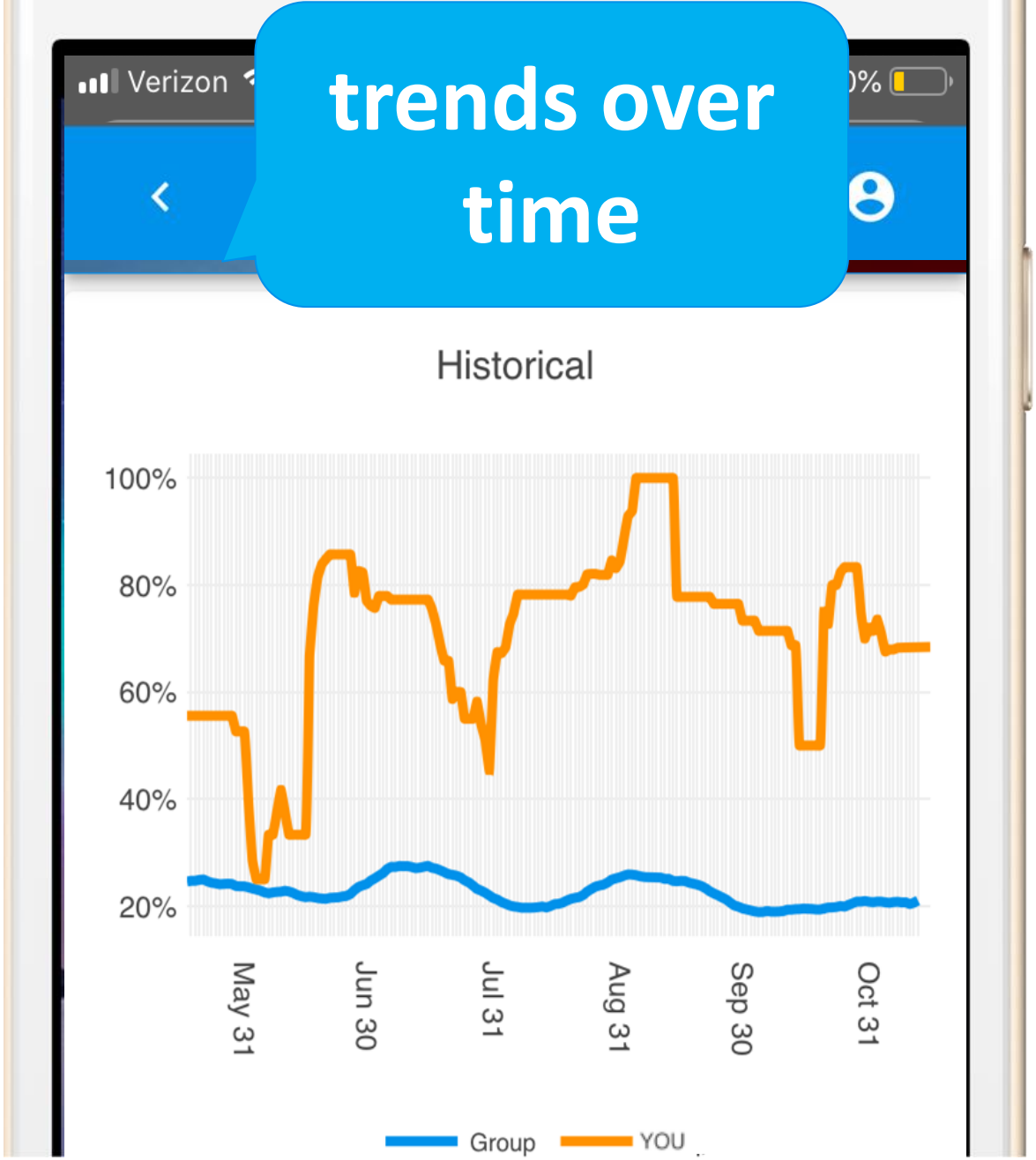
# USER FLOW


practice guidelines
Verizon
Opioid Discharge Prescriptions (%)
(Insight 1 of 2) You wrote opioid prescriptions for 27.5% of your discharged patients. (79 of 287 patients)
Details
Insight duration: 26 weeks
Jan 1, 2018 - Jun 30, 2018
This insight focuses on the **number of patients** you discharged with at least one opioid prescription. Opioids should not be used as first-line therapy for chronic pain, and a single outpatient provider (such as a primary care physician) should prescribe opioids for long-term therapy.

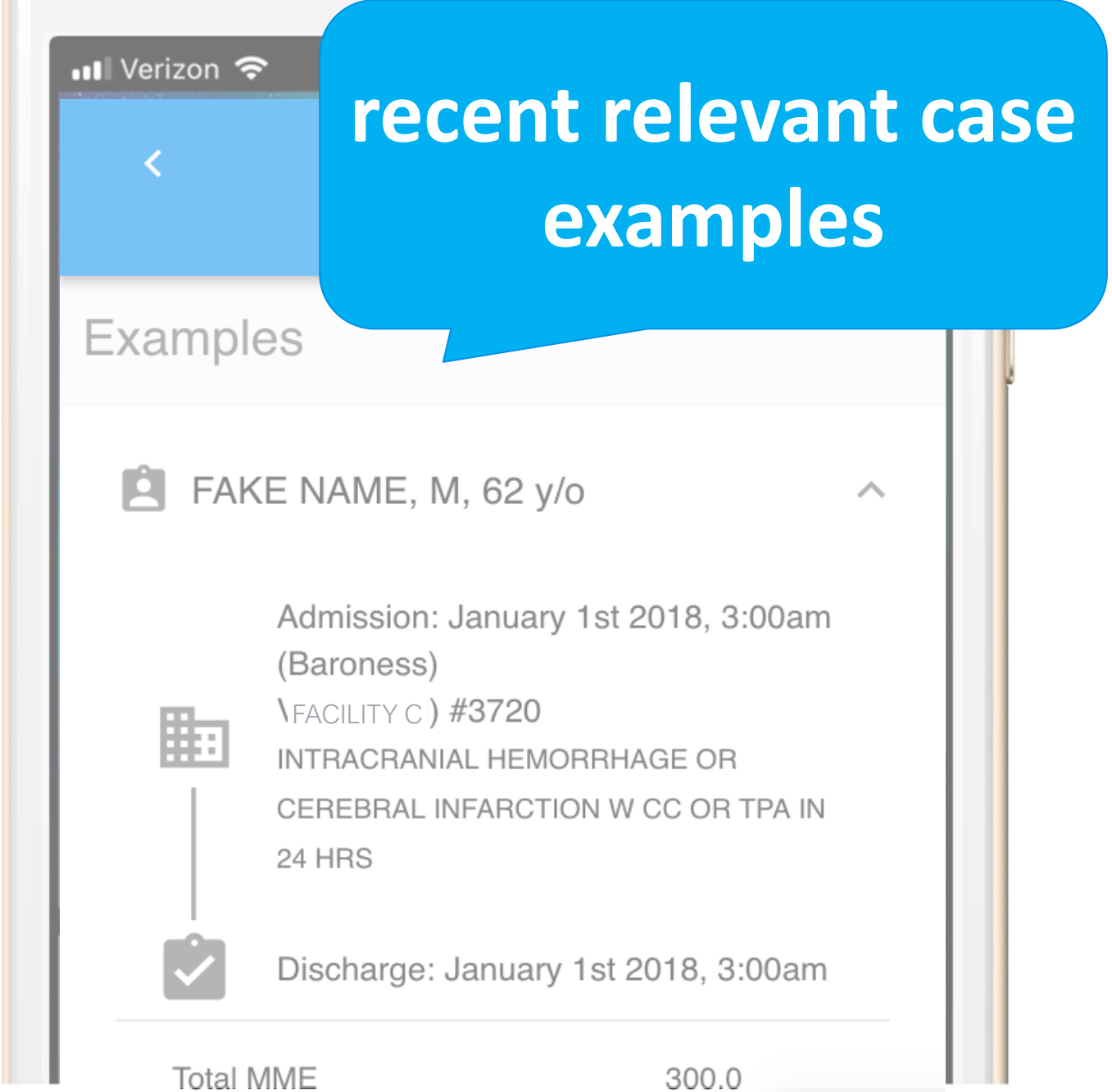
# USER FLOW


Verizon
peer comparison
Opioid Discharge Prescriptions
% of all discharges
30%
20%
10%
0%
YOU

# USER FLOW


Verizon
trends over time
Historical
100%
80%
60%
40%
20%
May 31
Jun 30
Jul 31
Aug 31
Sep 30
Oct 31
Group
YOU

# USER FLOW

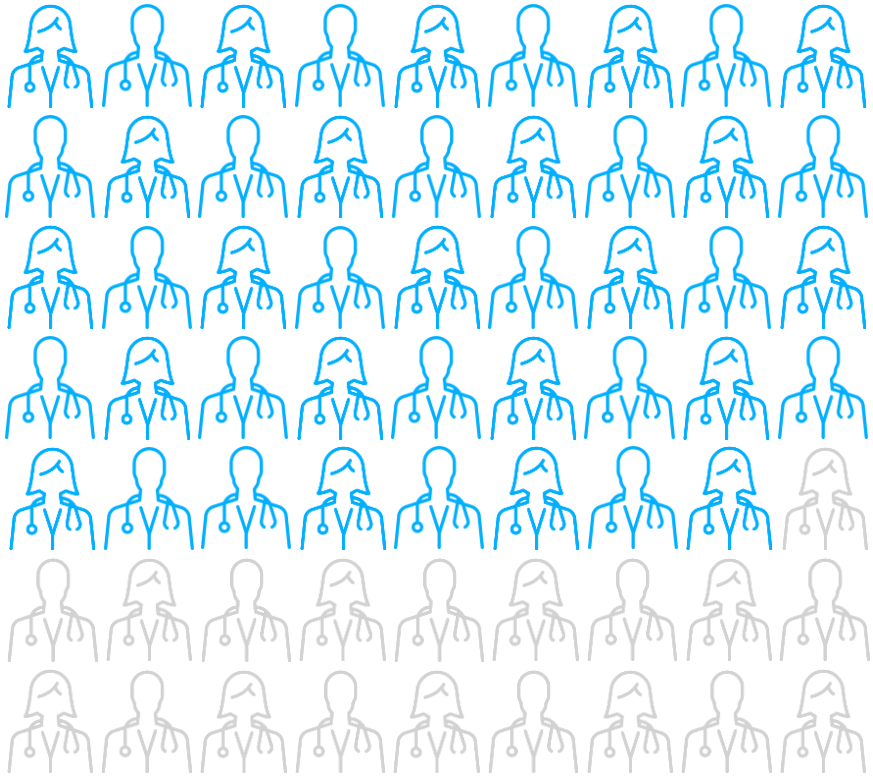

Verizon
recent relevant case examples
Examples
FAKE NAME, M, 62 y/o
Admission: January 1st 2018, 3:00am
(Baroness)
\FACILITY C ) #3720
INTRACRANIAL HEMORRHAGE OR CEREBRAL INFARCTION W CC OR TPA IN 24 HRS
Discharge: January 1st 2018, 3:00am
Total MME
300.0

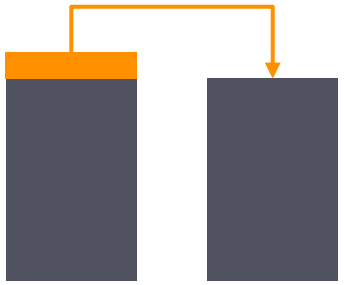
# Text message experience

# Do physicians open a text message and respond?

~70%

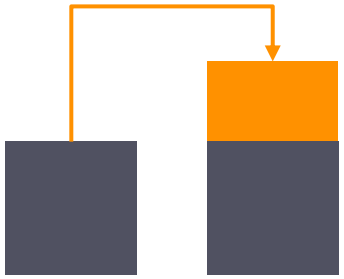
Opened text message (44 of 63)





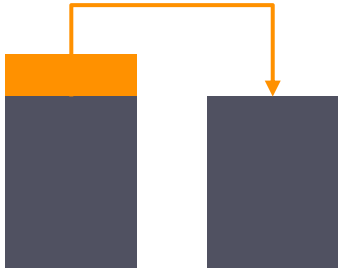
~5%

reduced routine labs per admission



~90%

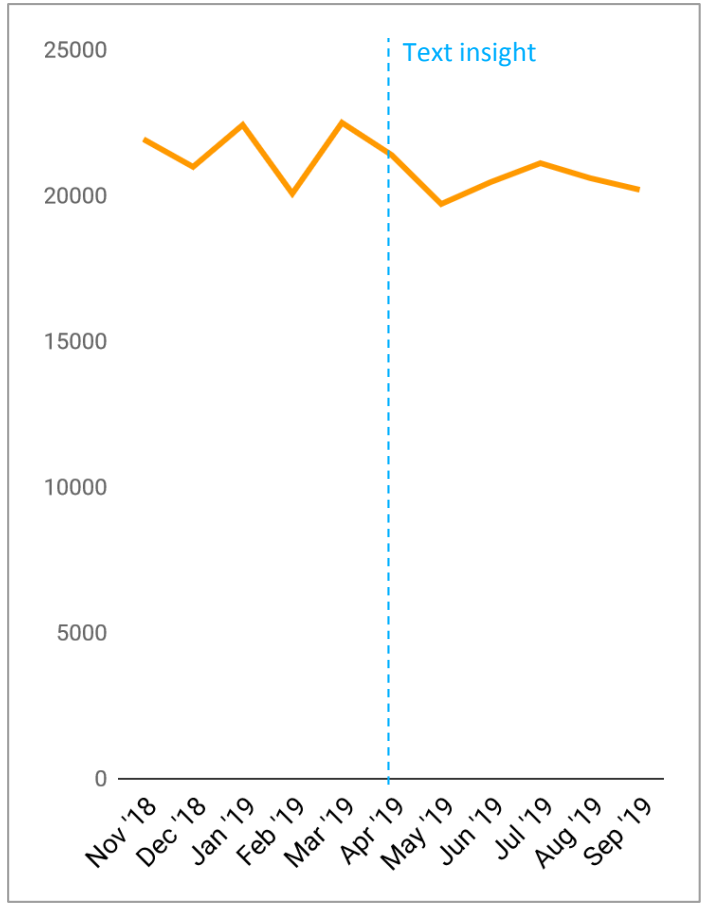
higher pre-10am “clean” discharge order rate



~30%

reduced CMP (vs. BMP) order rate

# RESULTS: lab utilization

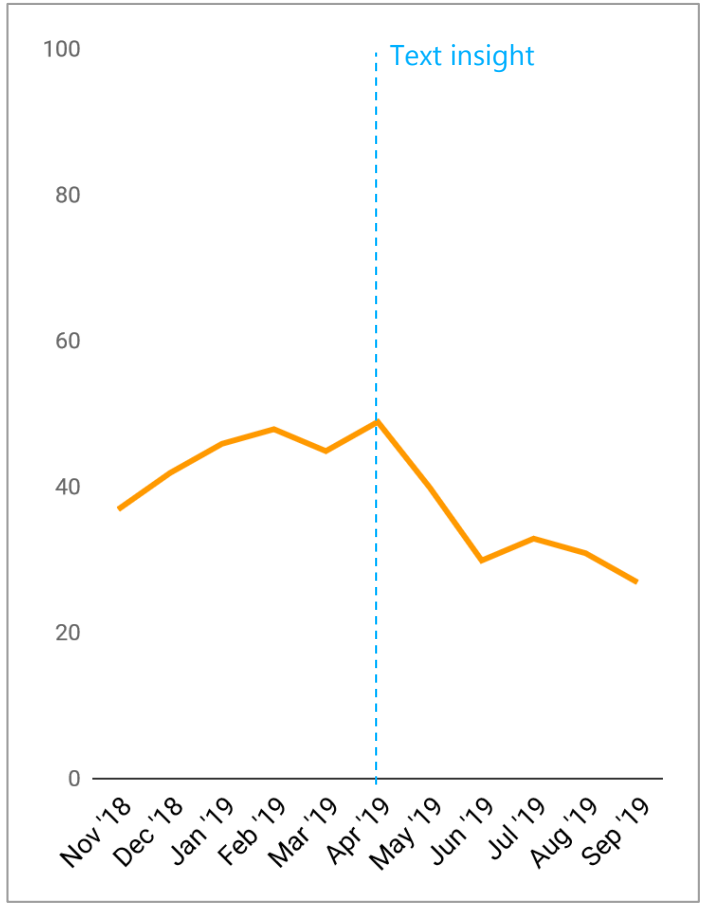



routine labs
per month

~5% relative decrease

~$22k attributed savings

*Period: May 1 - Sep 30*
*Baseline: Nov 1 - April 30*




CMP rate (%)
of BMP + CMP

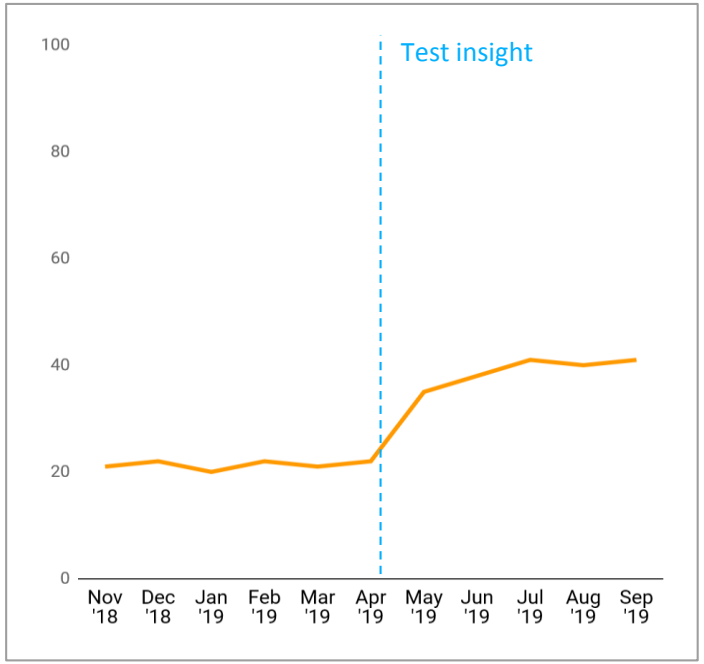
~30% relative decrease

~$25k attributed savings

*Period: May 1 - Sep 30*
*Baseline: Nov 1 - April 30*

# RESULTS: clean orders → earlier discharge

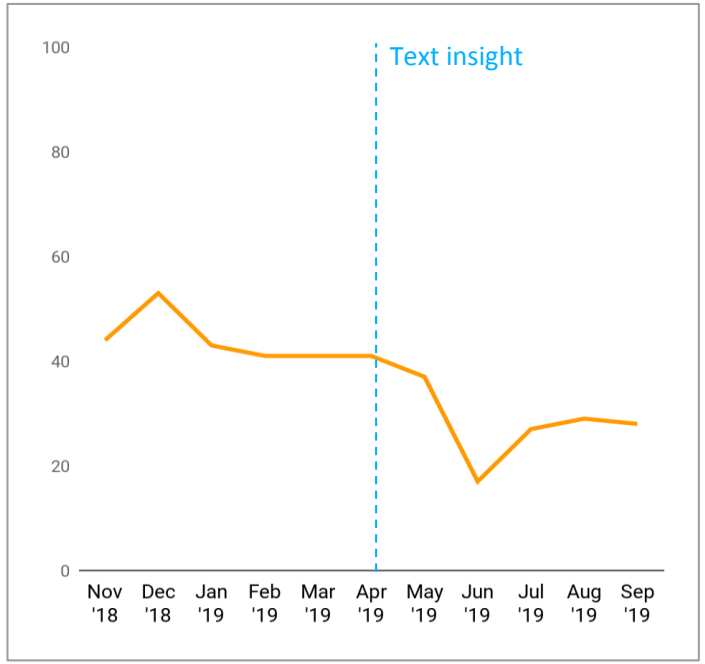
## “ACTIONS” → “OUTCOME”




pre-10am “clean” discharge order rate

~90% relative increase

*Period: May 1 - Sep 30*
*Baseline: Nov 1 - April 30*

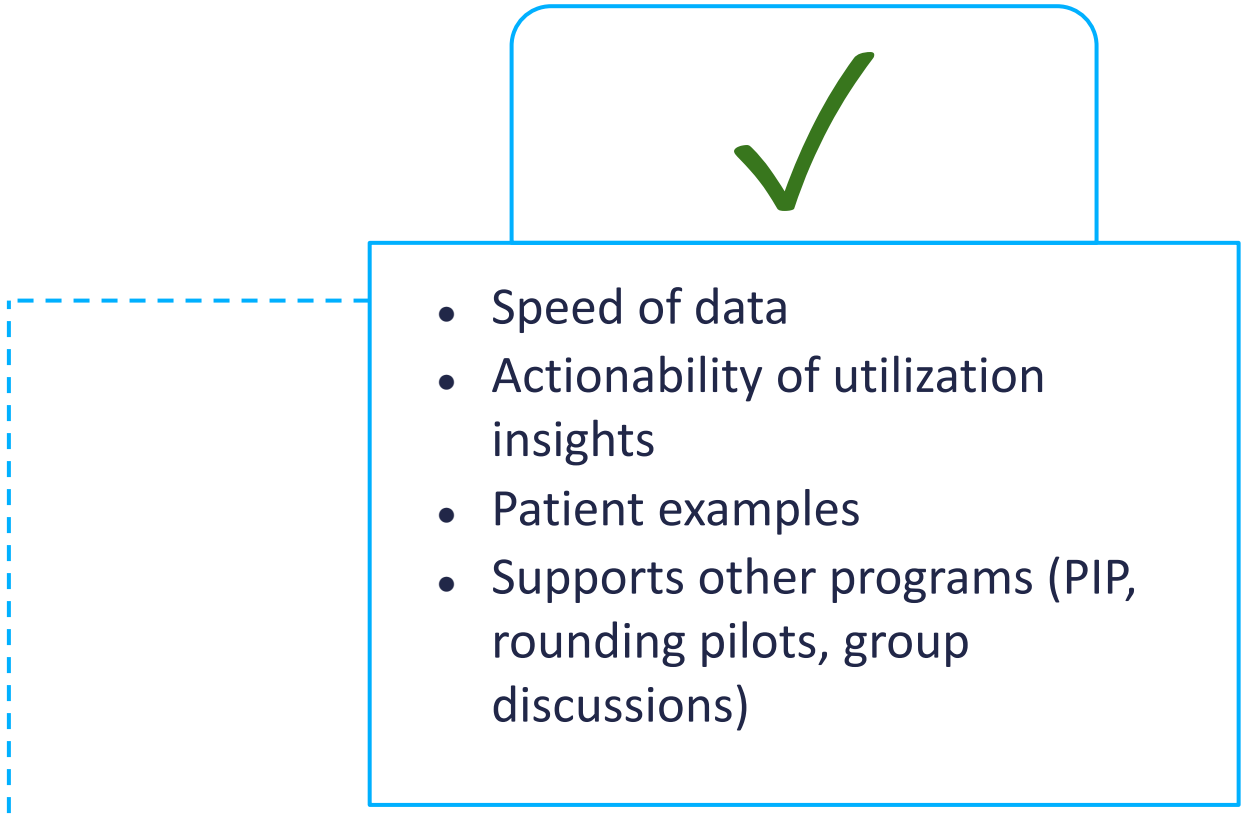



average discharge time
(minutes after 3pm)

~$72k attributed savings

*Period: May 1 - Sep 30*
*Baseline: Nov 1 - April 30*

# Hospitalists' feedback



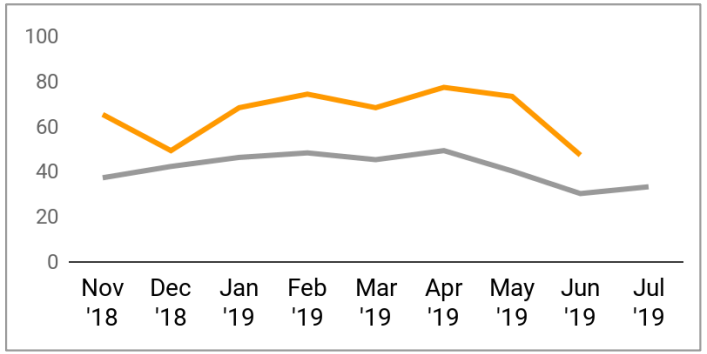
- Speed of data
- Actionability of utilization insights
- Patient examples
- Supports other programs (PIP, rounding pilots, group discussions)

*"This actually allows us to practice medicine differently."*

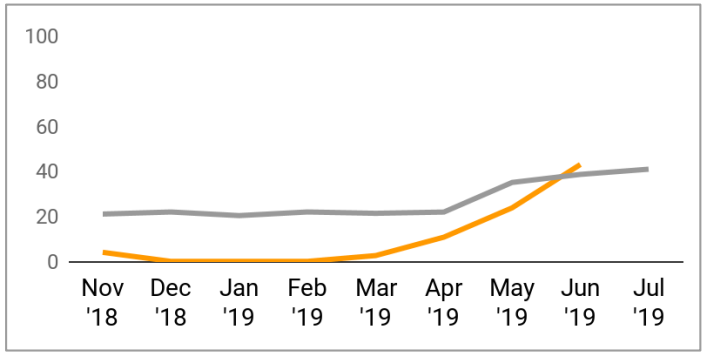
# Physician reaction and results

*“This is information I can’t get anywhere else.”*

CMP rate (%) of BMP + CMP




clean discharge order rate (%) by 10am



# In Depth Look

**sample hospital**

# Case study

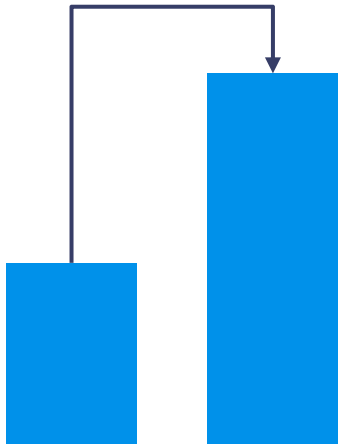
16 hospitalist

**~80%**

engagement

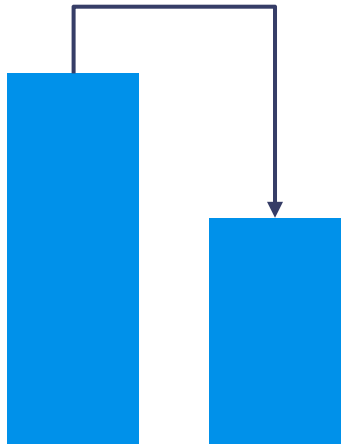
**~115%**

increased pre-9am “clean” discharge orders



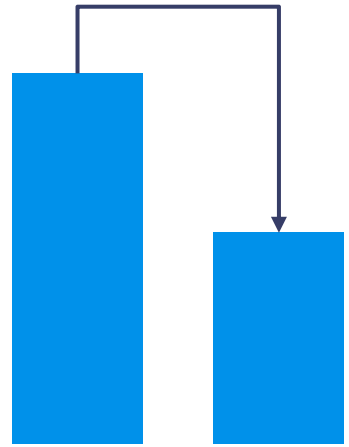
**~55%**

reduced CMP (vs. BMP) orders



**~50%**

reduced daily common lab orders



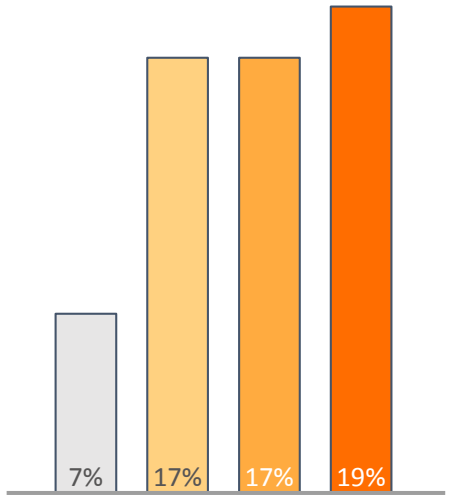
*”We used to find out months later about our efficiency, clinical metrics… ”*

# Does Engagement Correlate with Change?

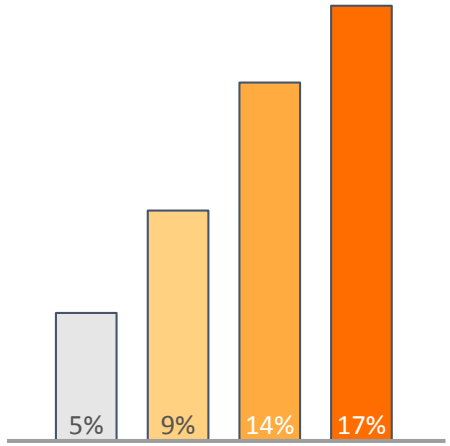
# ENGAGEMENT ↔ CHANGE: summary

- users who did not engage
- low engagement users
- medium engagement users
- high engagement users

## clean pre-10am discharge order

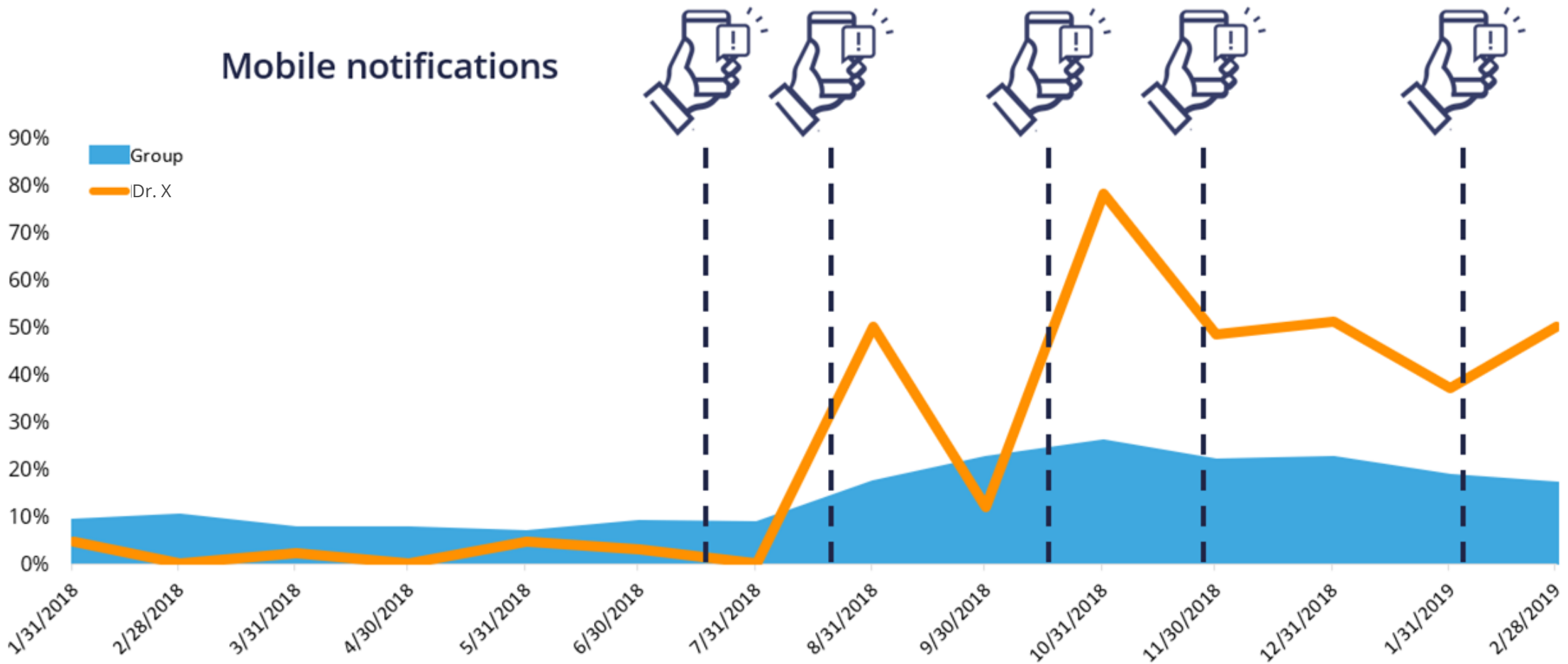



## CMP (vs. BMP) ordering

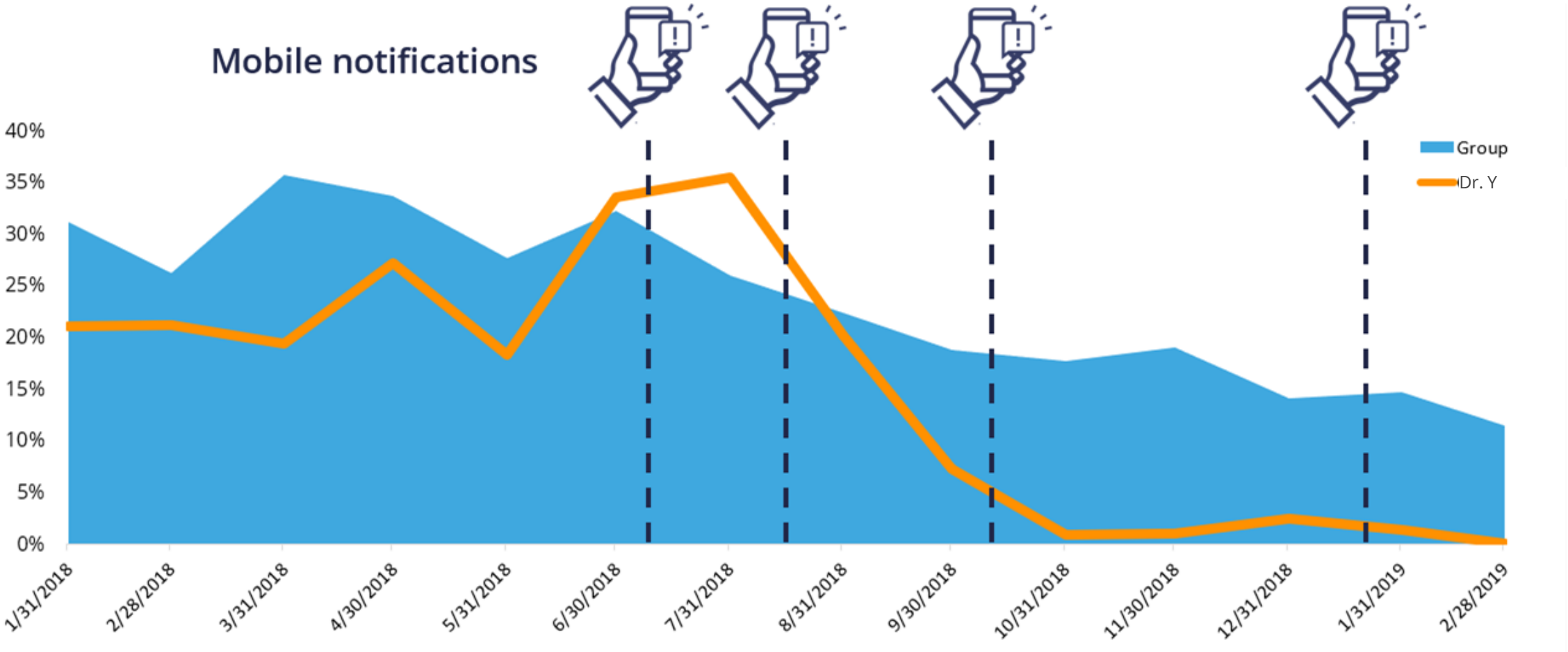


# Does Repetition Correlate with Change?

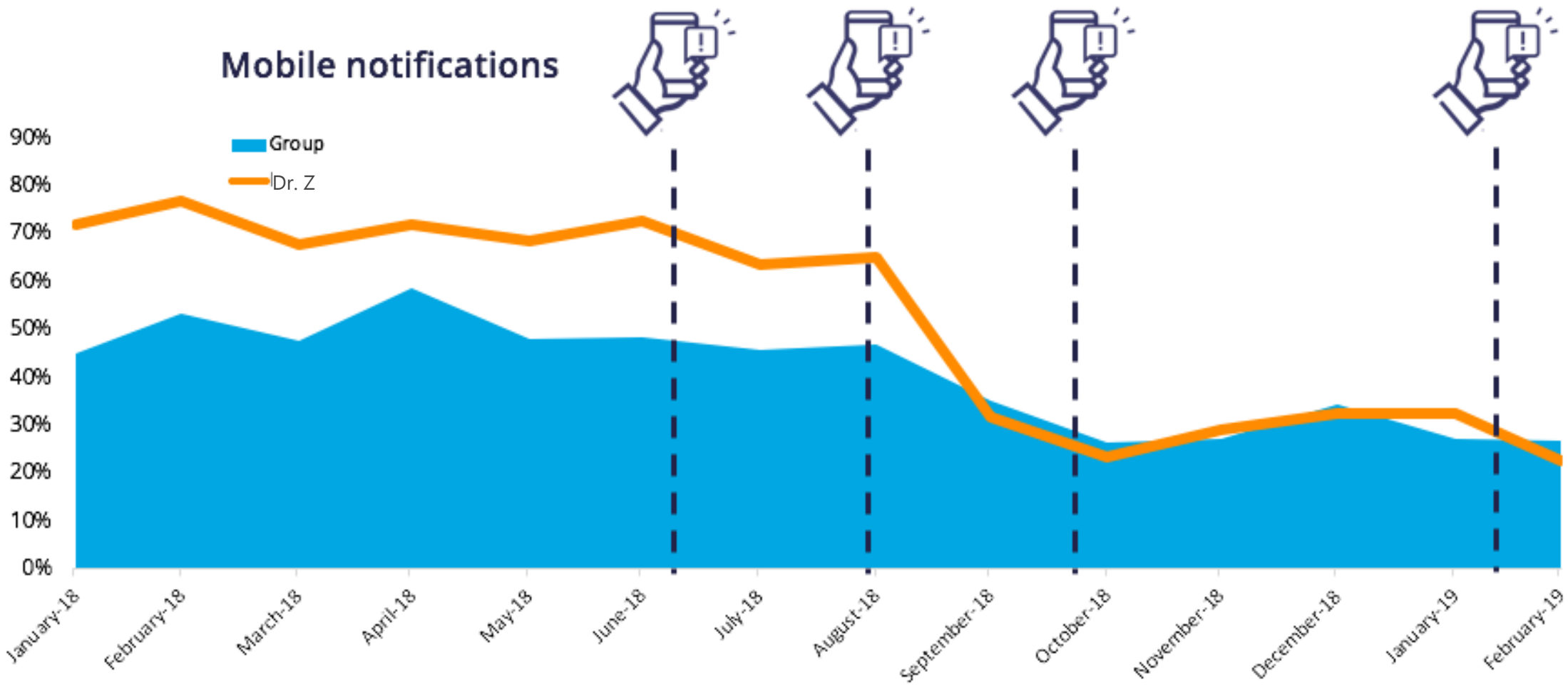
# Case Study: pre-9am discharge orders



# Case Study: reduced CMPs (vs. BMPs)



# Case Study: reduced daily common labs



# User reactions

*”The real-time feedback we see and line up has been a game-changer.”*

*“I didn’t think this would offer any value. Now I count upon the feedback nearly every week.”*

*”Conventional reports make no attempt to distribute attribution at the physician level, nor do they have an engaging tool with real-time feedback.”*

Unblinded peer comparison works.

**Try it!**