Value is in the eye of the beholder

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BELIEVE IN *WE*™ OhioHealth

Disclosures, 2004 – October 2016

- University grant monies:
  - Davis/Bremer Medical Research Award ($50K, 3/05 – 2/07)
- Non-industry grant monies:
  - NHLBI K23 HL075076 ($520,992, 4/05 – 3/09)
  - NIH Clinical Research Loan Repayment Program ($152,781, 10/03-6/05, 7/06-6/10)
  - NIA 1R01AG035117 ($200,722, 3/11 – 2/16)
  - NHLBI 1U01HL102547 ($250,182, 7/11 – 6/16)
  - NPSF ($100,000, 7/11 – 6/13)
- Industry grant monies:
  - PI for aerosolized amikacin (Aerogen, $0, 8/05 – 6/06)
  - PI for calfactant (Pneuma, $0, 9/08 – current)
- Consultant/Speakers' Bureau:
  - Unrestricted educational grant from Lilly to present talk at SCCM (2005)
  - Consultant to Medical Simulation Corporation ($4000, 2005-2006)
  - Co-author on manuscript with Lilly employees
  - Consultant to Keimar, Inc ($0)
  - Board of Directors, Sepsis Alliance
  - Executive Board, Global Sepsis Alliance, World Sepsis Day
  - **Chair, ACCP Quality Improvement Committee (2012-2014)**
  - **NQF Standing Committee – Pulm/Crit Care (2015 – current)**
- Honoraria to Sepsis Alliance (Travel/accomodations may have been provided)
  - Lecture on future perspectives on sepsis definitions (Brahms, 2009). Lecture on sepsis treatment (GE, 2011) Video on sepsis communication (GE, 2011) Webinar on sepsis (Siemens, 2011) Video on sepsis (Wolters-Kluwer, 2013) Advisory Board (OrthoClinical Diagnostics, 2013) Lecture on sepsis (GE, 2014) Lecture on sepsis (Abbott, 2015) Webinar on sepsis (GE, 2016)

- Value in healthcare
- Considering perspective for value
- Alternative framework for value
- How to approach value
- Why improve value

What is value in healthcare?

VALUE = Q/C

Q = Quality
C = Cost

What is Quality?

- NOT a physical attribute of a product or service
- Does NOT exist until there is an interaction between the product or service and the person making the judgment.
- A PERCEPTION that is based on an individual's value system

Who is the person making that judgement?

Voice of the Customer

- The "voice of the customer" is a process used to capture the requirements/feedback from the customer (internal or external) to provide the customers with the best in class service/product quality

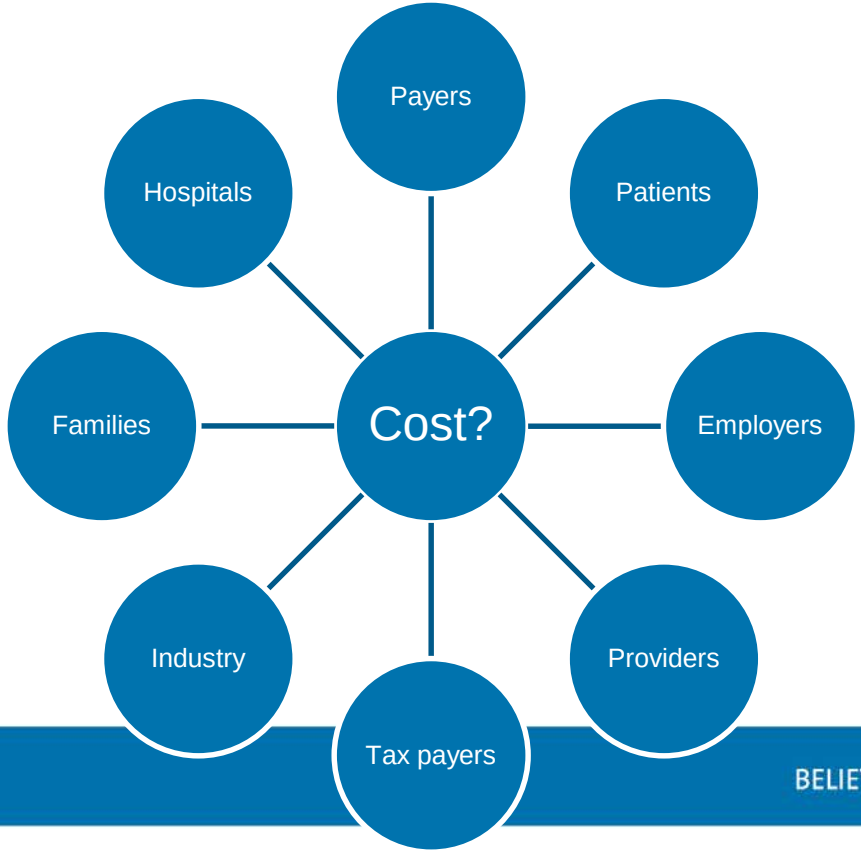
- Who is the Customer?
- Is it always the patient? Can there be more than one?
- How do we get the Voice of the Customer?
- Why is the VOC important?

CMS - Quality

- Value-based purchasing (VBP) –
  - Outcomes, Pt experience, Efficiency, Safety
  - Maximum 2% adjustment
- Hospital-acquired conditions (HACs)
  - 13 hospital acquired complications
  - Maximum 1% penalty
- Readmission reduction program
  - 6 diagnoses
  - Maximum 3% penalty
- MACRA (providers)
  - Quality, resource use, meaningful use, clinical practice improvement activities
  - Maximum penalty increases from 4% in 2019 to 9% in 2022

- Complex risk-adjustment
- Data old (FFY17 adjustment based on performance in 2015)
- Medicare FFS only
- Unclear if it improves quality

Cost has different perspectives too



How much were US healthcare expenditures in 2014?

1. $3 billion
2. $30 billion
3. $300 billion
4. $3 trillion
5. $30 trillion

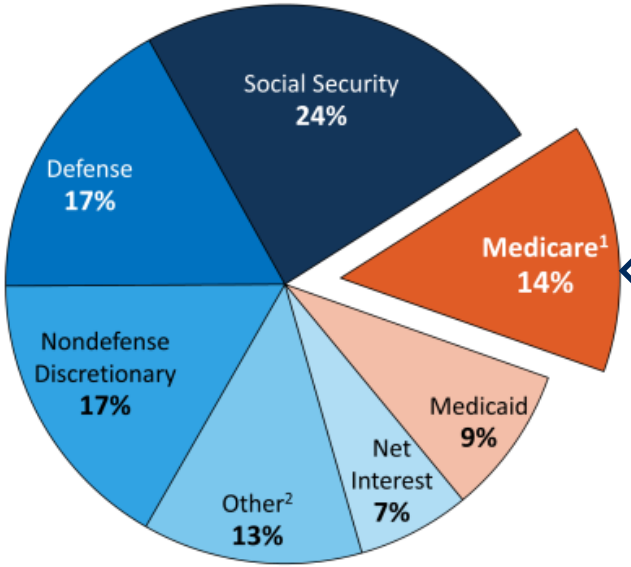
What does $3 trillion mean?

- One of every $5.71 “produced” in the US is spent on healthcare
  - 17.5% of GDP
- Per capita expenditures of $9523
  - $26 per day per person
- Largest consumers
  - Hospital care - $972B
  - Physician and clinical services - $604B
- 60% of bankruptcies are due to medical bills
- Bigger than 4th largest GDP in the world

CMS view of cost

Figure 1

Medicare as a Share of the Federal Budget, 2014



25% Hospital
12% Physicians
11% Part D

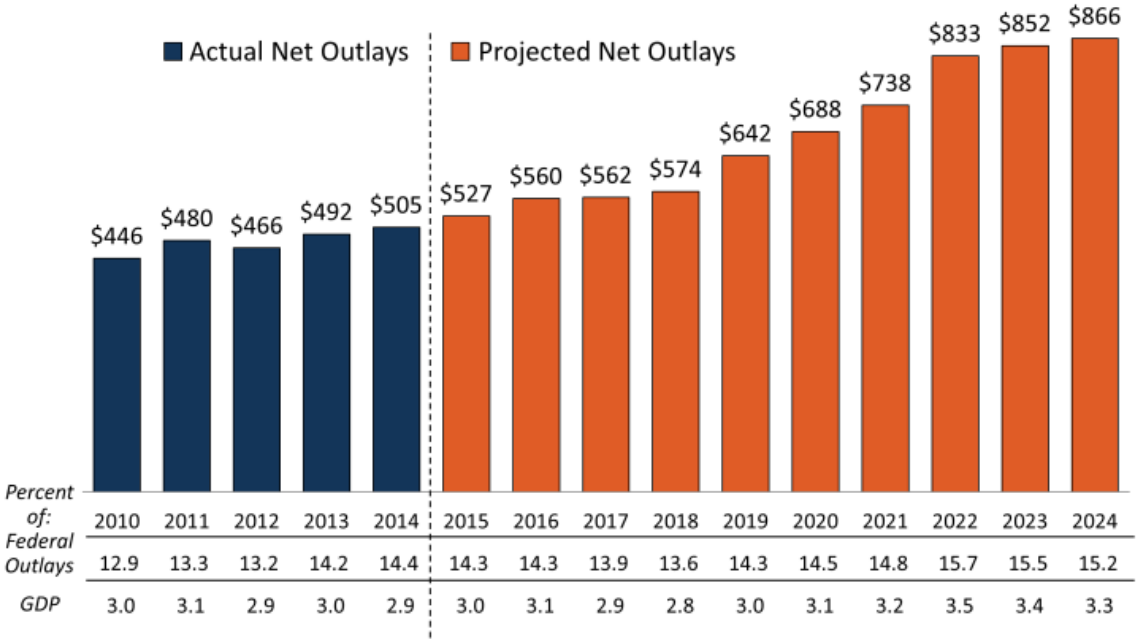
Total Federal Outlays, 2014 = $3.5 Trillion
Net Federal Medicare Outlays, 2014 = $505 Billion

NOTE: All amounts are for federal fiscal year 2014. [1]Consists of Medicare spending minus income from premiums and other offsetting receipts. [2]includes spending on other mandatory outlays minus income from offsetting receipts).
SOURCE: Congressional Budget Office, Updated Budget Projections: 2015 to 2025 (March 2015).

CMS view of cost

Figure 4

Actual and Projected Net Medicare Spending, 2010-2024



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Percent of: Federal Outlays	12.9	13.3	13.2	14.2	14.4	14.3	14.3	13.9	13.6	14.3	14.5	14.8	15.7	15.5	15.2
GDP	3.0	3.1	2.9	3.0	2.9	3.0	3.1	2.9	2.8	3.0	3.1	3.2	3.5	3.4	3.3

NOTE: All amounts are for federal fiscal years; amounts are in billions and consist of Medicare spending minus income from premiums and other offsetting receipts.
SOURCE: Congressional Budget Office, Updated Budget Projections: 2015 to 2025 (March 2015); The 2015 Long-Term Budget Outlook (June 2015).

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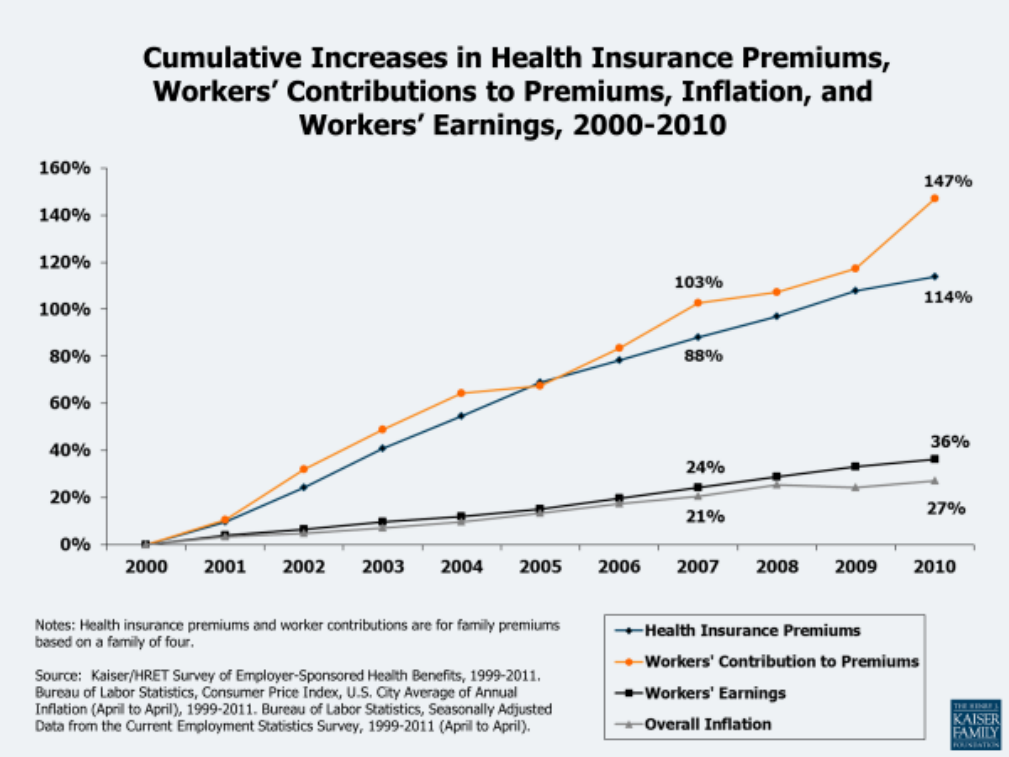
Other perspectives



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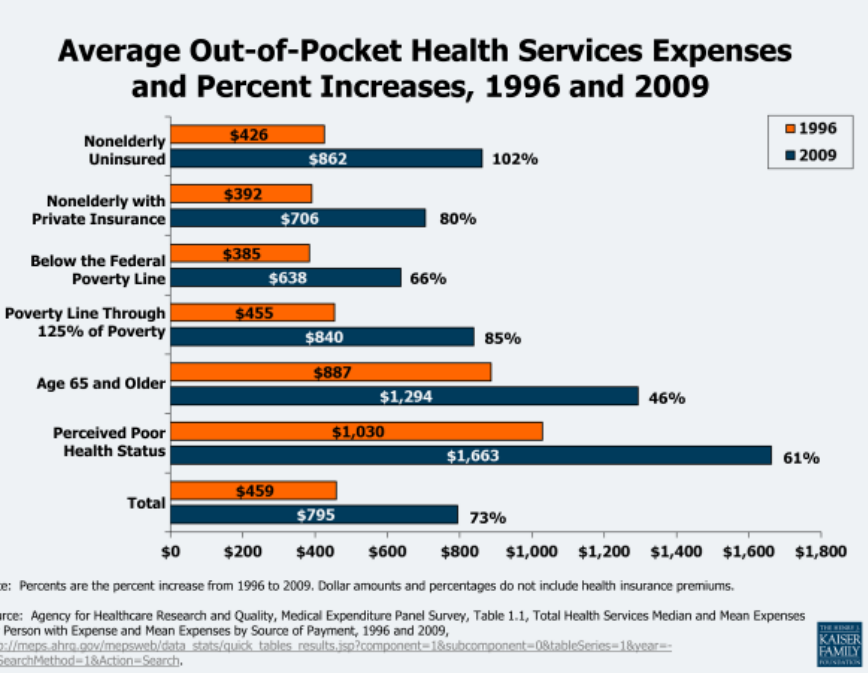
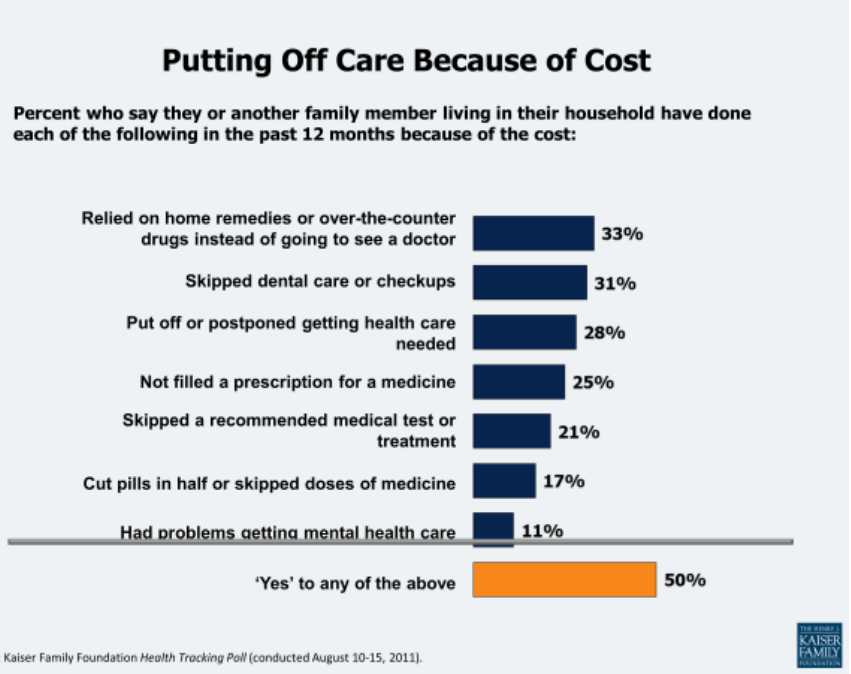




The dilemma of delivering high-value healthcare – acute respiratory failure and tracheostomies

Acute Respiratory Failure – acute failure of lungs

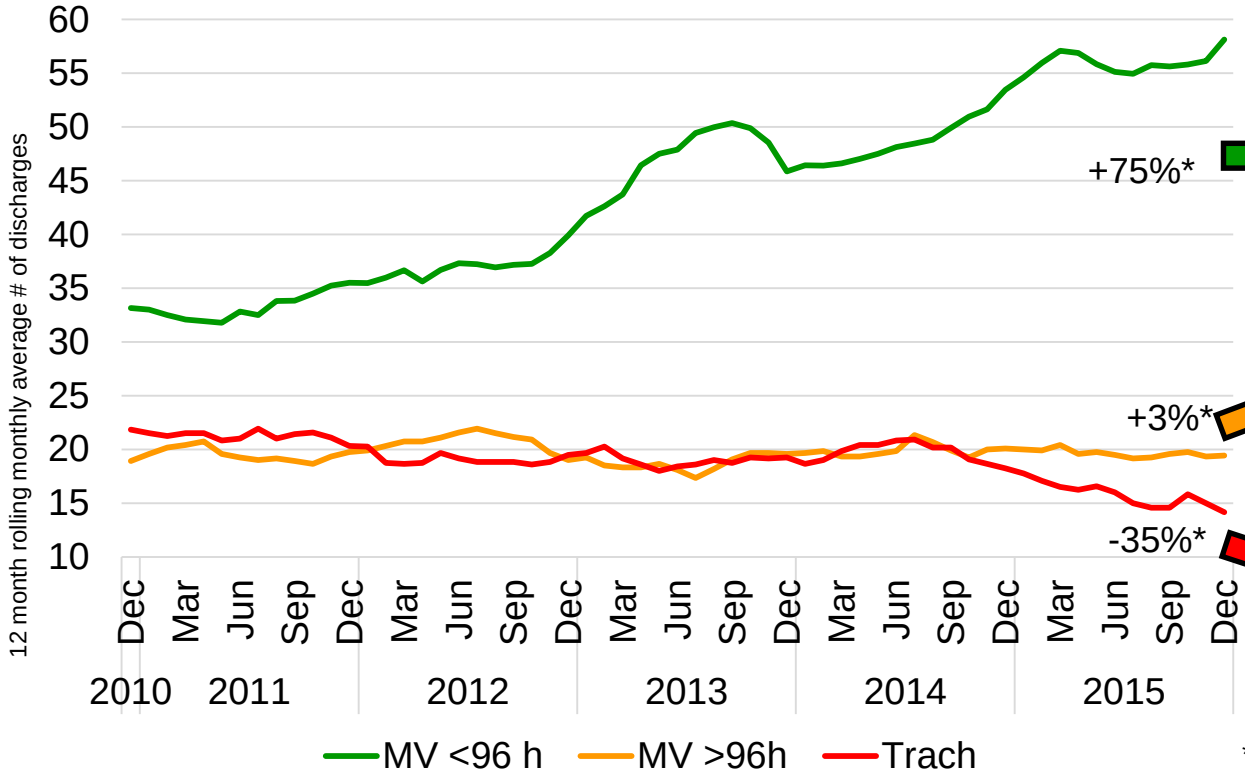
- 1,917,910 hospitalizations in 2009
- $54.3B in hospital costs ($15,900 cost per case)
- 20.6% mortality

Stefan *et al. J Hosp Med* 2013; 8(2):76-82

Progression Affected by Care Practices

Sedation, breathing trials, mobilization, palliative medicine, fluid balance, avoidance of HACs

Acute Respiratory Failure Isn't a DRG to Clinicians

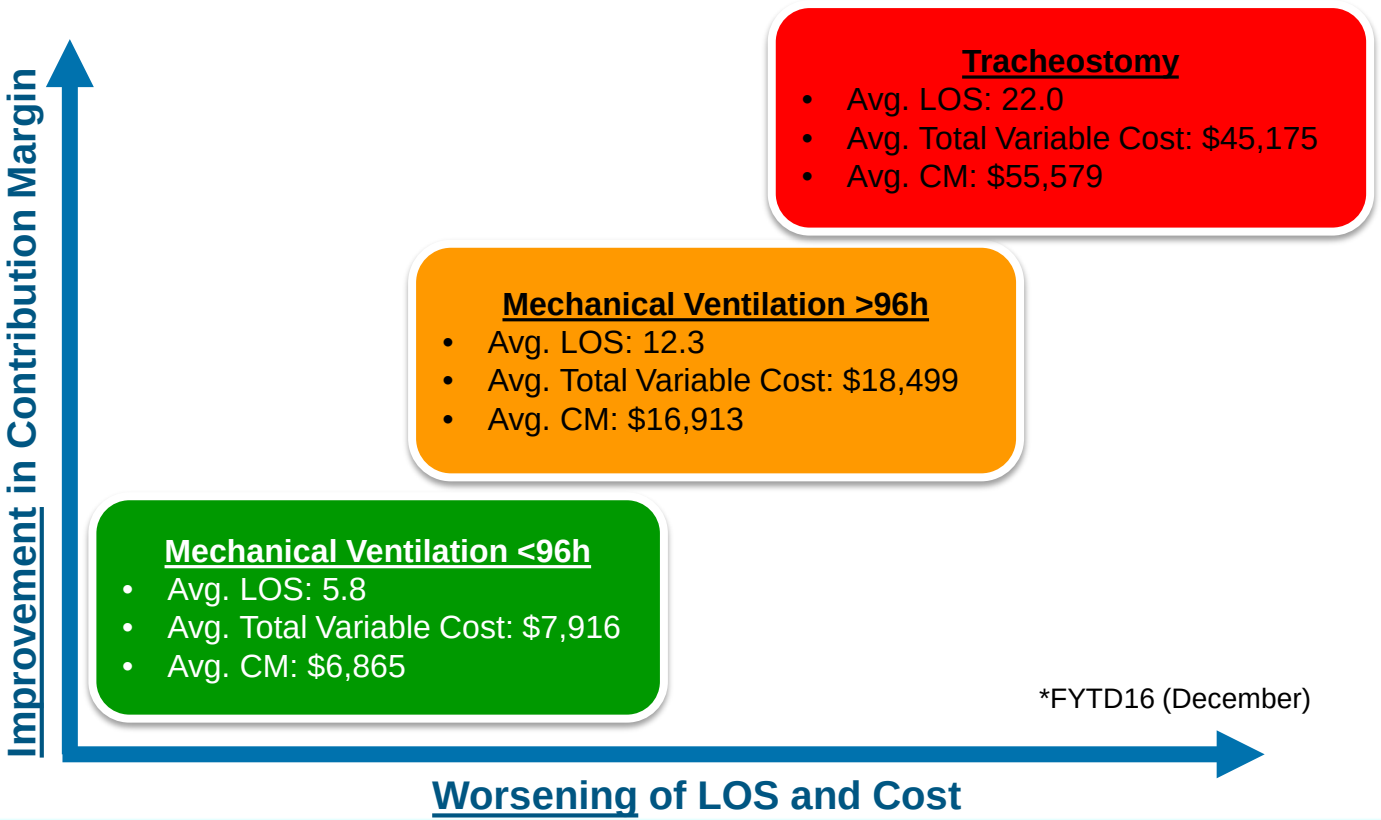


Patients with mechanical ventilation ≤96h
(DRGs 871, 872, 208)

Patients with mechanical ventilation >96h
(DRGs 870, 207)

Patients with mechanical ventilation getting a trach
(DRGs 003, 004)

*CY10 to CY15


Improvement in Contribution Margin
Tracheostomy
• Avg. LOS: 22.0
• Avg. Total Variable Cost: $45,175
• Avg. CM: $55,579
Mechanical Ventilation >96h
• Avg. LOS: 12.3
• Avg. Total Variable Cost: $18,499
• Avg. CM: $16,913
Mechanical Ventilation <96h
• Avg. LOS: 5.8
• Avg. Total Variable Cost: $7,916
• Avg. CM: $6,865
*FYTD16 (December)
Worsening of LOS and Cost

Impact of Improving Acute Respiratory Failure

- **Impact to Patients** (CY15 vs CY14)
  - Mortality decrease from 31% to 30% (10 people)
  - Decrease in survivors discharged to LTACH from 25% to 16%
  - Increase in survivors discharged to Hospice from 8% to 11%

- **Estimated Impact to Hospital** (FY12-16)
  - Unrealized Contribution Margin $7,062,680
  - Avoided Variable Costs $4,509,265
  - Increased capacity by 3696 patient-days

- **Estimated Impact to Total Cost of Care** (CY15 vs CY14)
  - Decrease in LTACH payments of $2,464,000

How to decide on perspective for value?

The Golden Circle

WHAT

Every organization on the planet knows WHAT they do. These are products they sell or the services

HOW

Some organizations know HOW they do it. These are the things that make them special or set them apart from their competition.

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Very few organizations know WHY they do what they do. WHY is not about making money. That's a result. WHY is a purpose, cause or belief. It's the very reason your organization exists.

What: Here is our hospital.

How: We have the best doctors and nurses. Have you seen our hospital? It is brand new. We win all sorts of awards. We have the biggest market share

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> "People don't buy what you do, they buy why you do it."
>
> - Simon Sinek

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A value perspective

http://jessjacobs.me/on-wasting-my-time-the-numbers/

Value Breakdown

	TotalTime(Hours)	Non-ValueAddedTime(Hours)	ValueAddedTime(Hours)
Outpatient			
Cardiology	11.67	10.17	1.50
Endocrinology	0.67	0.25	0.42
Gastroenterology	16.00	15.25	0.75
Hematology	5.67	5.00	0.67
Neurology	0.75	0.67	0.08
Ophthalmology	1.00	0.33	0.67
Pain Specialist	12.93	12.42	0.52
Primary Care	22.50	18.42	4.08
Psychology	23.83	15.50	8.33
Rheumatology	11.33	10.67	0.67
	106.35	88.67	17.68
Inpatient			
Emergency Room	158.33	154.75	3.58
Hospital Days	1296.00	1290.50	5.50
Ambulance	7.00	6.50	0.50
Total (Minutes)	1567.68	1540.42	27.27

Value Quotient

In Lean there's the concept of Value Added Time (things the customer will pay for) and Non-Value Added Time (things not of value to the customer). Since I'm the customer in this situation, I get to define what's valuable to me and what's not. Here I defined Value Added time as:

- Outpatient Care: Total consult time plus one episode of paperwork and one episode of nursing per specialty. *At least once a year I need to update my paperwork, but when there hasn't been a change (and there hasn't been since January) refilling out the forms is unnecessary. Same thing when it comes to nursing/medical assistants - last week I saw 3 outpatient specialists on the same day, in the same system, using the same EHR. All 3 still insisted on taking my height, weight, blood pressure, and temperature. All 3 readings were essentially the same.*
- Inpatient Care: Total consult time and nursing time. *Please remember it's an average - when a 2 hour procedure is preceded by 3 days of nothingness, on average that's only half an hour of value per day.*

How to approach greater value for patients?

$$VALUE = Q/C$$

$$VALUE = [A * (Q + S)] / W$$

Q = Quality
C = Cost

A = Appropriateness
S = Satisfaction
W = Waste

The 8 Wastes of Healthcare

1. Defects
   - Time spent doing something incorrectly, inspecting for errors or fixing errors
2. Overproduction
   - Doing more than what is needed by the customer or doing it sooner than needed
3. Transportation
   - Unnecessary movement of the “product” (patients, specimens, materials) in a system

The 8 Wastes of Healthcare

4. Waiting
   - Waiting for the next event to occur or next work activity
5. Inventory
   - Excess inventory cost through financial costs, storage and movement costs, spoilage, wastage
6. Motion
   - Unnecessary movement by employees in the system

The 8 Wastes of Healthcare

7. Over-processing
   - Doing work that is not valued by the customer or caused by definitions of quality that are not aligned with patient needs
8. Human potential
   - Waste and loss due to not engaging employees, listening to their ideas, or supporting their careers

The 8 FRUSTRATIONS of Healthcare

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   - Doing work that is not valued by the customer or caused by definitions of quality that are not aligned with patient needs
8. Human potential
   - Waste and loss due to not engaging employees, listening to their ideas, or supporting their careers

Thinking Differently

We cannot solve our problems with the same thinking we used when we created them.

Albert Einstein

Continuous Improvement is one of the solutions to minimize our problems.

Characteristics of a CI Culture

CULTURE SHIFT

DRIVE COMPLEXITY

Common Culture

- Results oriented
  - •Focus on result, not problem solving process
- Fragmented Thinking
  - •Fragmented actions
  - •Silos
- Command & Control
  - •Metrics are primary mgt tool
  - •Defer to person of highest rank
- Defensive
  - •Failure not allowed
  - •Associates justify/ rationalize
- Knowers
  - •Blanket solutions
  - •Use CI specialists

CI Culture

- Process oriented
  - •Focus on means to achieve results
- Systems Thinking
  - •Processes and people are aligned to achieve org goals
- Leader as Teacher
  - •Go see (gemba)
  - •Develop problem solvers
- Internalize
  - •Let's identify the problem and solve it together
- Learners
  - •Create an environment where it is ok to fail

DRIVE CONTINUOUS IMPROVEMENT

CI - Concepts

1. Understand the Voice of the Customer
2. Understand & Operate to your Demand
3. Do it Right the First Time
4. Eliminate/Minimize Batching
5. 5S/Standardize
6. Create Flexibility
7. Keep it Simple
8. Make it Visual
9. Measure (Only) What is Important
10. Go to Gemba

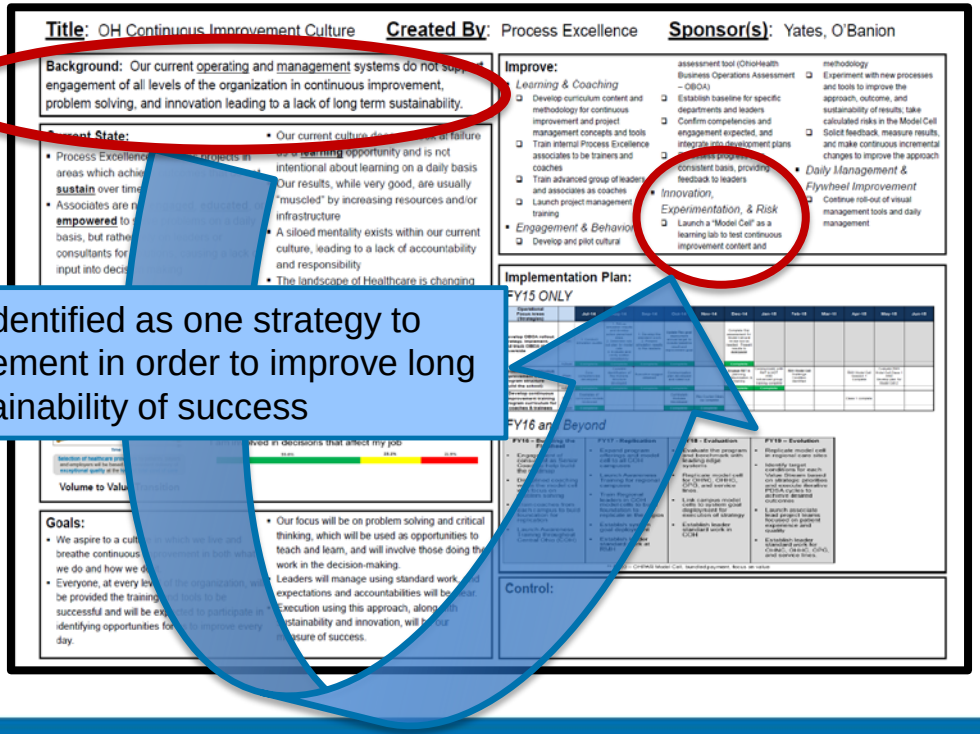
Color Key:

Current State Evaluation	**Sustainability**
Future State Design	**ALL**

What evidence is there this can work in healthcare?

The Origin of Model Cell

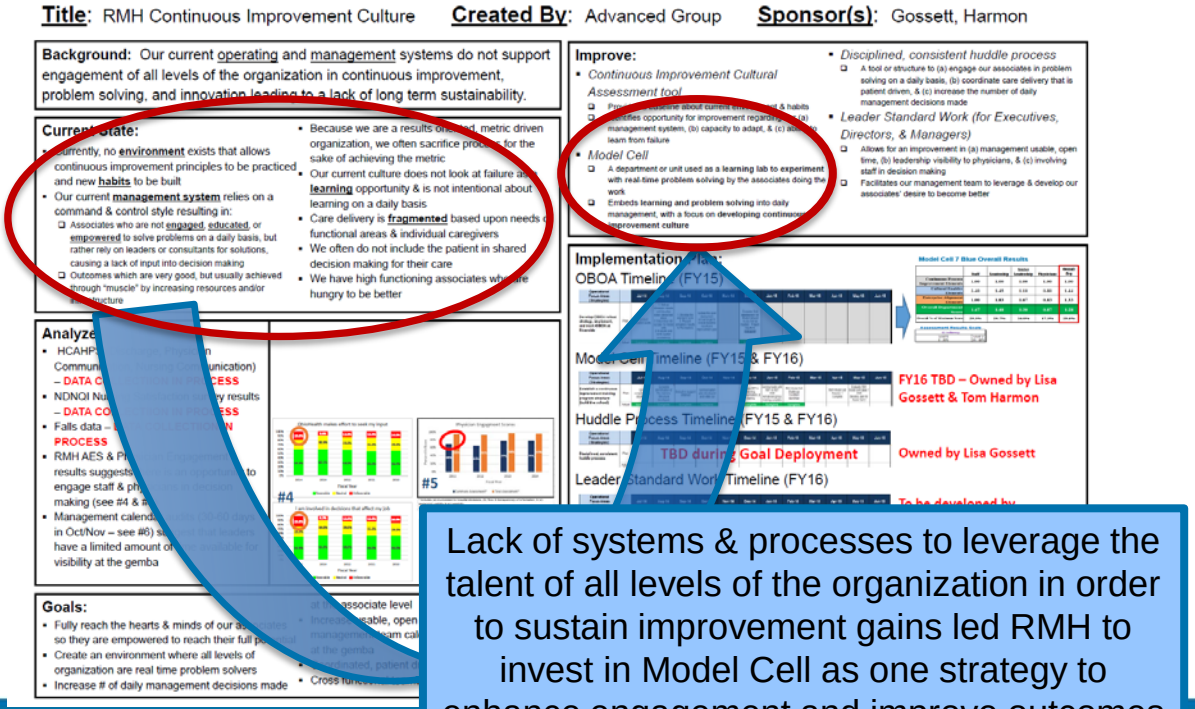
Parent A3



Model Cell was identified as one strategy to improve staff engagement in order to improve long term sustainability of success

Cascaded to care site ….

RMH Child A3



Lack of systems & processes to leverage the talent of all levels of the organization in order to sustain improvement gains led RMH to invest in Model Cell as one strategy to enhance engagement and improve outcomes

What is it?

- A **learning lab** to test continuous improvement **content** and **methodology**
- Embeds **learning and problem solving** into daily management, with a focus on **developing** a **continuous improvement culture**

A learning lab wherein those closest to the work are engaged in the continual improvement of that work.

True North

Model Cell’s purpose is to create a continuous improvement culture through engagement of frontline associates

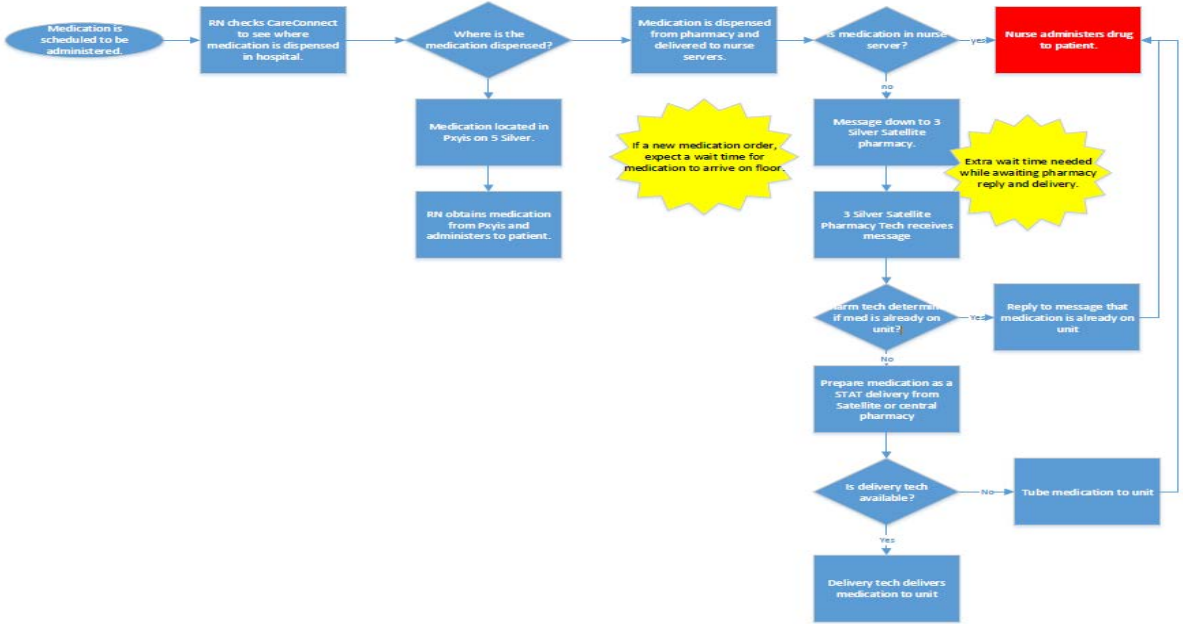
Background: Problem to Solve

Scheduled Medications are unavailable

- 419 messages in one month's time!!!
  - **common trend***: nurses unable to locate medications stored on the unit in refrigerators or Pyxis machines*

- 0 RNs surveyed were able to identify the numbering sequence of Pyxis machines
- Pyxis stock not re-evaluated
- Wasted space in all 4 Pyxis machines

Prior State


Medication is scheduled to be administered.
RN checks CareConnect to see where medication is dispensed in hospital.
Where is the medication dispensed?
Medication located in Pxyis on 5 Silver.
RN obtains medication from Pxyis and administers to patient.
Medication is dispensed from pharmacy and delivered to nurse servers.
If a new medication order, expect a wait time for medication to arrive on floor.
Is medication in nurse server?
Yes
Nurse administers drug to patient.
no
Message down to 3 Silver Satellite pharmacy.
Extra wait time needed while awaiting pharmacy reply and delivery.
3 Silver Satellite Pharmacy Tech receives message
Pharm tech determines if med is already on unit?
Yes
Reply to message that medication is already on unit
No
Prepare medication as a STAT delivery from Satellite or central pharmacy
Is delivery tech available?
No
Tube medication to unit
Yes
Delivery tech delivers medication to unit

Analyze

- Focus: top three missed medications
  - **Aspirin**
  - **Lipitor**
  - **Lopressor**

- 52% of the doses were administered late by the RN

- Over 4 shifts, 36% of missing medications were one of the three medications identified above.

Current State

- Utilize available space in all Pyxis machines by adding three new medications: Aspirin, Lipitor, Lopressor

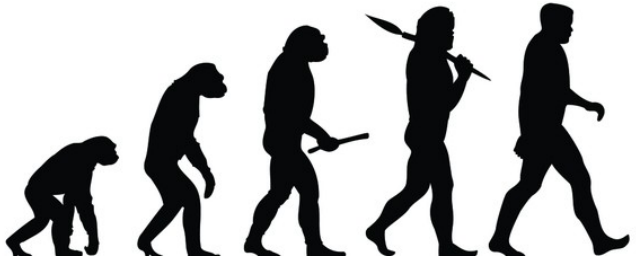
- Provide communication and education:
  - correct location of all Pyxis machines
  - new contents

Successes

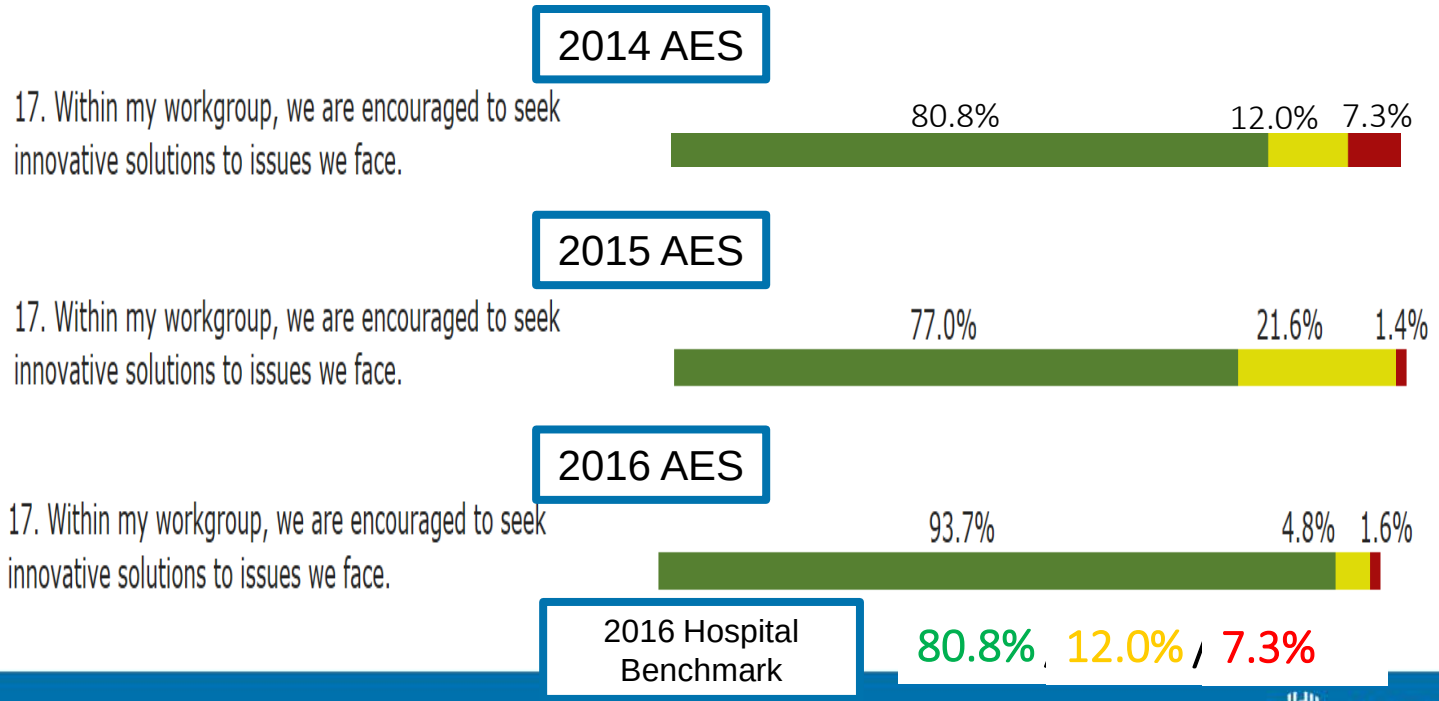
- January 2016
  - 250 messages (40% reduction)
  - Zero messages for Aspirin, Lopressor, Lipitor
  - 5 Silver RNs can identify all Pyxis machines and locations

- Lateralization: Pharmacy implemented tower-wide Pyxis labeling as a result of the Model Cell A3

Evolution of the 5 Silver Culture



Associate Engagement Survey Results



Associate Engagement Survey Results

2014 AES

36. I am involved in departmental decisions that affect my job.

2015 AES

36. I am involved in departmental decisions that affect my job.

2016 AES

36. I am involved in departmental decisions that affect my job.

2016 Hospital Benchmark

59.0%, 21.7%, 19.3%

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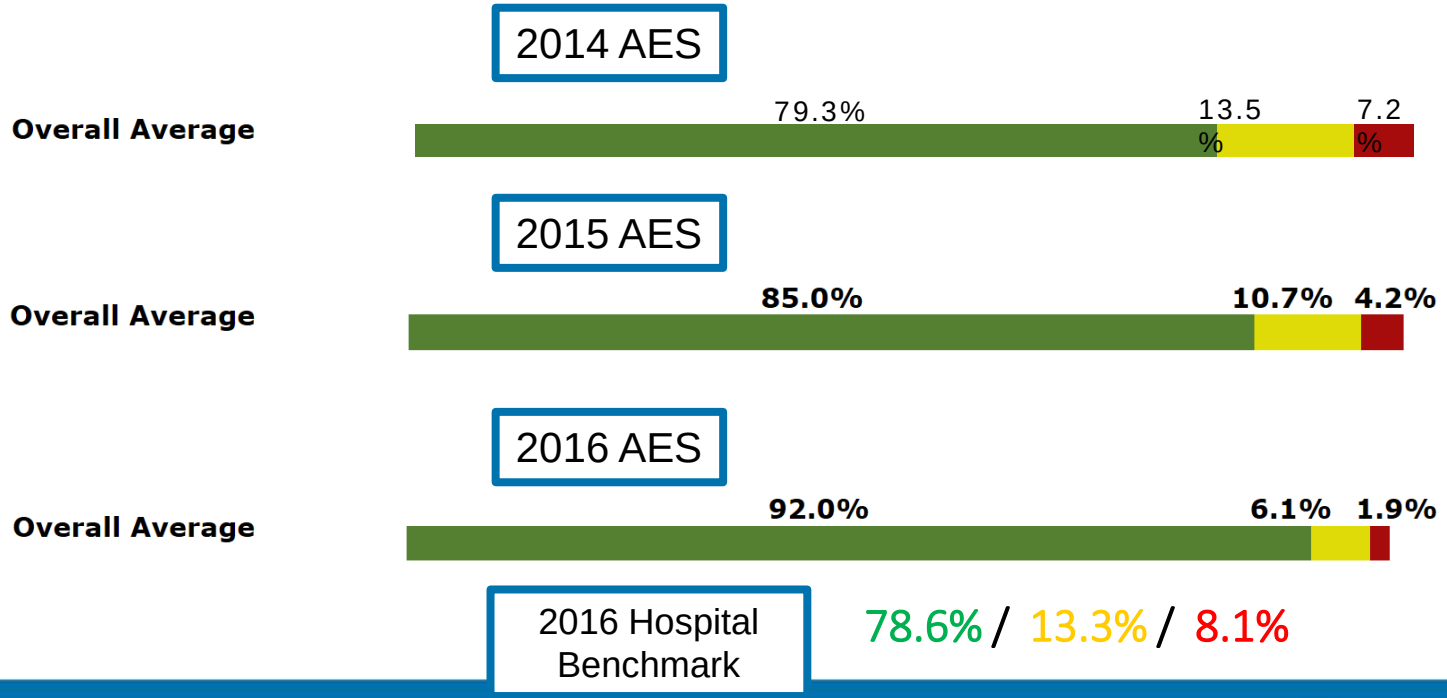
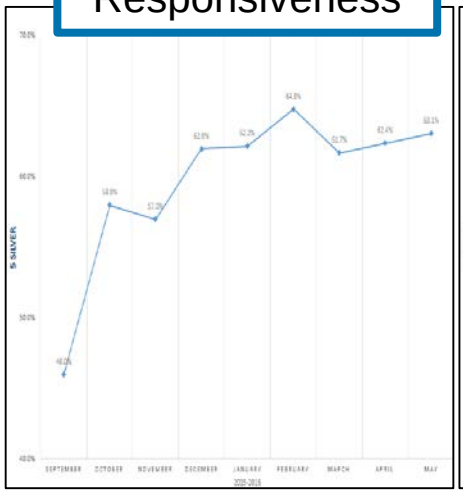
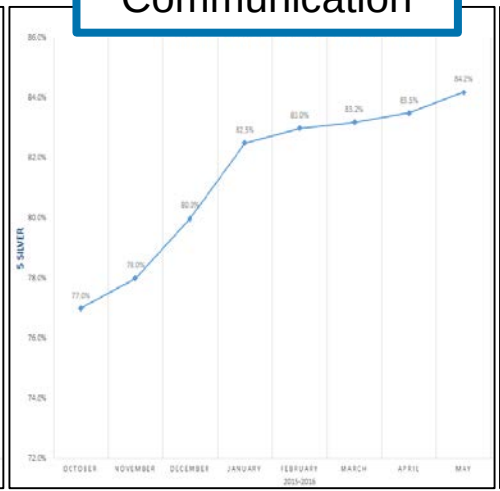


A place where patients want to go when they need healthcare services

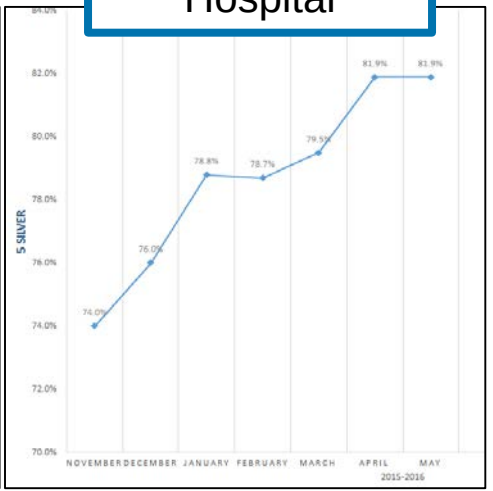
HCAHPS Responsiveness



HCAHPS Nurse Communication



HCAHPS Rate Hospital



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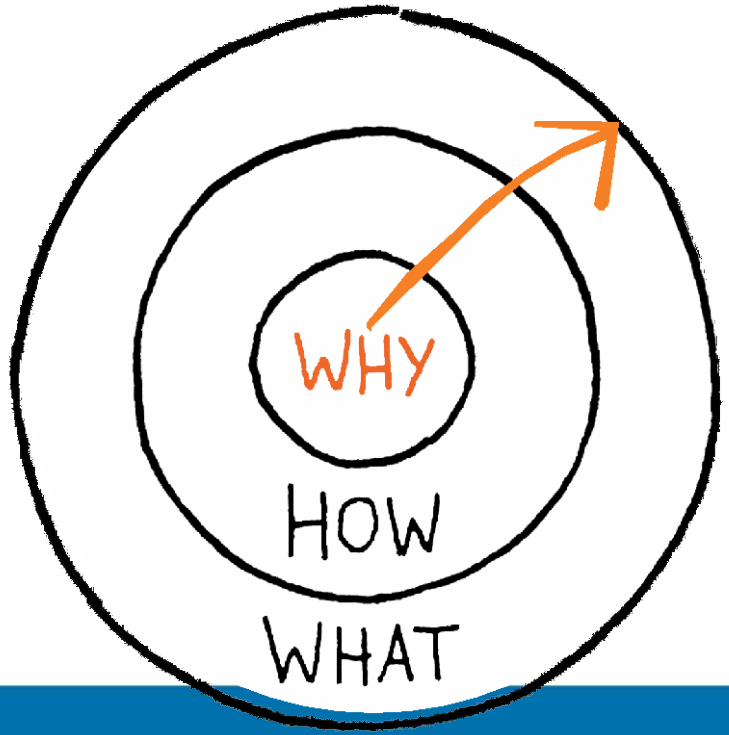
Ambulance	7.00	6.50	
Total (Minutes)	1567.68	1540.42	27.27

So yes, I owe the medical system my life for giving me blood when my hemoglobin drops deathly low. But there's no reason a 4 hour transfusion required 84 hours of negotiation and frustration. There's no reason that only 4.75% of outpatient visits and .08% of my hospitalizations are spent actively treating my condition. There's no reason that I spent two solid months (1540 hours, 64.2 days) of this year waiting instead of healing.

The Golden Circle



Why: We believe in partnering with communities and people so that healthcare is less stressful, less confusing and less expensive.

How: We do so by empowering the best doctors and nurses to do their best for their patients. We build new facilities to enhance healing. We share our results so others can learn.

What: We are transforming healthcare. We hope to earn your trust.

BELIEVE IN *WE*™ OhioHealth

A FAITH-BASED, NOT-FOR-PROFIT HEALTHCARE SYSTEM

RIVERSIDE METHODIST HOSPITAL + GRANT MEDICAL CENTER + DOCTORS HOSPITAL

GRADY MEMORIAL HOSPITAL + DUBLIN METHODIST HOSPITAL + DOCTORS HOSPITAL–NELSONVILLE

HARDIN MEMORIAL HOSPITAL + MARION GENERAL HOSPITAL + REHABILITATION HOSPITAL + O'BLENESS HOSPITAL

MEDCENTRAL MANSFIELD HOSPITAL + MEDCENTRAL SHELBY HOSPITAL + WESTERVILLE MEDICAL CAMPUS

HEALTH AND SURGERY CENTERS + PRIMARY AND SPECIALTY CARE + URGENT CARE + WELLNESS

HOSPICE + HOME CARE + 28,000 PHYSICIANS, ASSOCIATES & VOLUNTEERS