International Clinical Analytics Summit

Smarter Hospitals

Safer Patients

Better Outcomes

Improving Safety, Quality, and Costs through Shared Innovative Analytics

Richard P. Shannon, M.D.

Executive Vice President for Health Affairs, University of Virginia

April 2, 2015

7:30 a.m. – 4 p.m.

MITRE Baltimore

2275 Rolling Run Drive, Windsor Mill, MD 21244

Academic Medical Centers and High Performing Organizations: Science Fiction or Reality TV ?

Richard P. Shannon, MD

Executive Vice President for Health Affairs

University of Virginia Health System

Are Academic Medical Centers Capable of Becoming Learning Organizations?

- **Infatuation with reportable not actionable data**
- **Awash in meaningless measures**
- **Lack a common, disciplined problem solving system (Hawthorne effect)**
- **No room for learning**
- **Confuse effort with success**

Unintelligible Public Reporting:

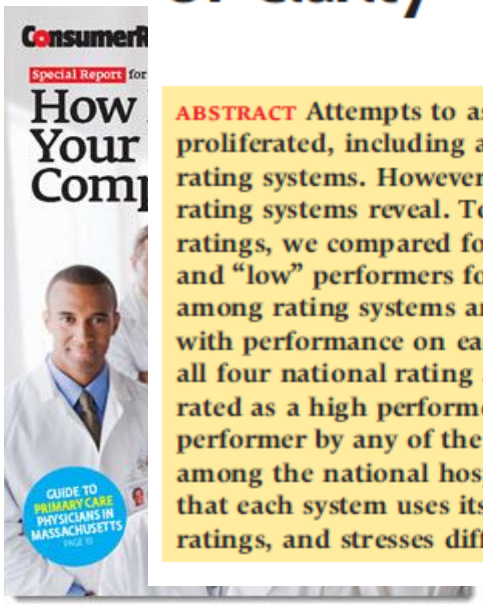
Teaching to the Test vs True Improvement

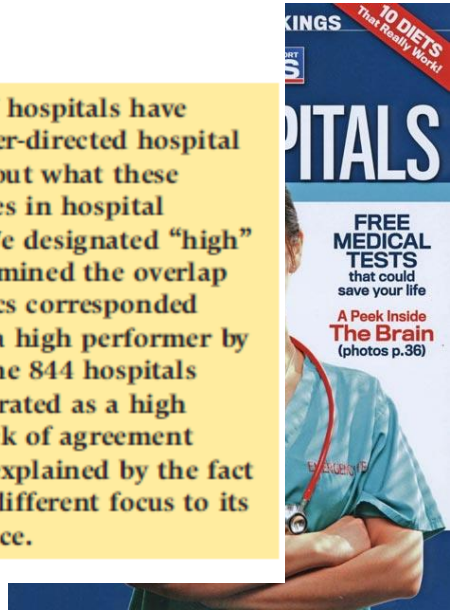
PATIENT ENGAGEMENT

By J. Matthew Austin, Ashish K. Jha, Patrick S. Romano, Sara J. Singer, Timothy J. Vogus, Robert M. Wachter, and Peter J. Pronovost

National Hospital Ratings Systems Share Few Common Scores And May Generate Confusion Instead Of Clarity

ABSTRACT Attempts to assess the quality and safety of hospitals have proliferated, including a growing number of consumer-directed hospital rating systems. However, relatively little is known about what these rating systems reveal. To better understand differences in hospital ratings, we compared four national rating systems. We designated "high" and "low" performers for each rating system and examined the overlap among rating systems and how hospital characteristics corresponded with performance on each. No hospital was rated as a high performer by all four national rating systems. Only 10 percent of the 844 hospitals rated as a high performer by one rating system were rated as a high performer by any of the other rating systems. The lack of agreement among the national hospital rating systems is likely explained by the fact that each system uses its own rating methods, has a different focus to its ratings, and stresses different measures of performance.





GRADES®

Technology Undermined by Unreliable Delivery System

≠

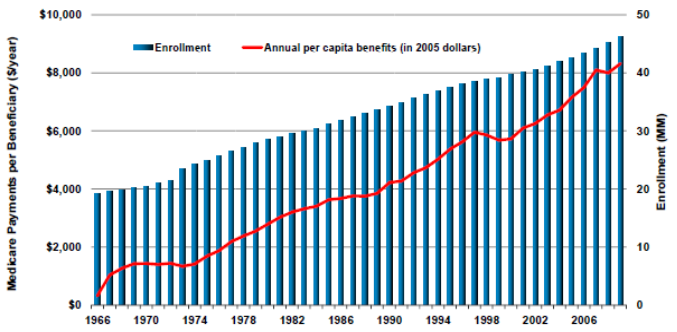
What It Will Take to Achieve the As-Yet-Unfulfilled Promises of Health Information Technology

Health Affairs, v. 32, no. 1, Jan. 2013, p. 63-68

Our Nation's Healthcare System at a Cross Roads

Medicare costs are driven by two components, number of beneficiaries and cost per beneficiary

Real annual Medicare payments per beneficiary and enrollment (1966-2009)*



* Data are inflation adjusted using BEA's GDP price index. MM = million.
Source: Department of Health and Human Services; Meeker, Mary. 2011. *USA Inc.: A Basic Summary of America's Financial Statements*. KPCB.

43

EXHIBIT 1

Estimates of Waste in US Health Care Spending in 2011, by Category

	Cost to Medicare and Medicaid[a]			Total cost to US health care[b]		
	Low	Midpoint	High	Low	Midpoint	High
Failures of care delivery	$26	$36	$45	$102	$128	$154
Failures of care coordination	21	30	39	25	35	45
Overtreatment	67	77	87	158	192	226
Administrative complexity	16	36	56	107	248	389
Pricing failures	36	56	77	84	131	178
Subtotal (excluding fraud and abuse)	166	235	304	476	734	992
Percentage of total health care spending	6%	9%	11%	18%	27%	37%
Fraud and abuse	30	64	98	82	177	272
Total (including fraud and abuse)	197	300	402	558	910	1,263
Percentage of total health care spending				21%	34%	47%

SOURCE Donald M. Berwick and Andrew D. Hackbarth, "Eliminating Waste in US Health Care," *JAMA* 307, no. 14 (April 11, 2012):1513–6. Copyright © 2012 American Medical Association. All rights reserved.
NOTES Dollars in billions. Totals may not match the sum of components due to rounding. [a]Includes state portion of Medicaid. [b]Total US health care spending estimated at $2.687 trillion.

Learning from Highly Reliable Organizations

- **Habitual excellence requires continuous improvement**
- **Continuous improvement requires continuous learning**
- **Continuous learning requires critical thinking using disciplined problem solving approaches**
- **We balk at the price of improvement without stopping to calculate the cost of average performance**

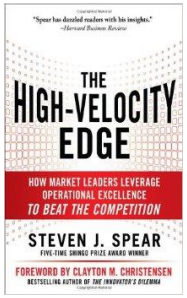
Safer?

27X safer to work at Alcoa than a US Best Hospital

Leaders in HROs

The Servant Leader

- Set clear and unambiguous expectations
- Empower and create systems that provide answers….
- Amazing problem solving capabilities
- How they spend their time reflects their values
- Take away all the excuses as to “Why not?”



Be Safe at the University of Virginia

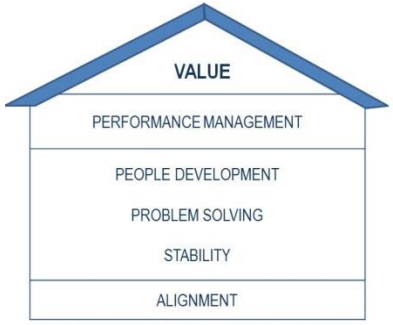
BeSafe — *Advancing UVA's status as the safest place to work and receive care.*

University of Virginia Health System

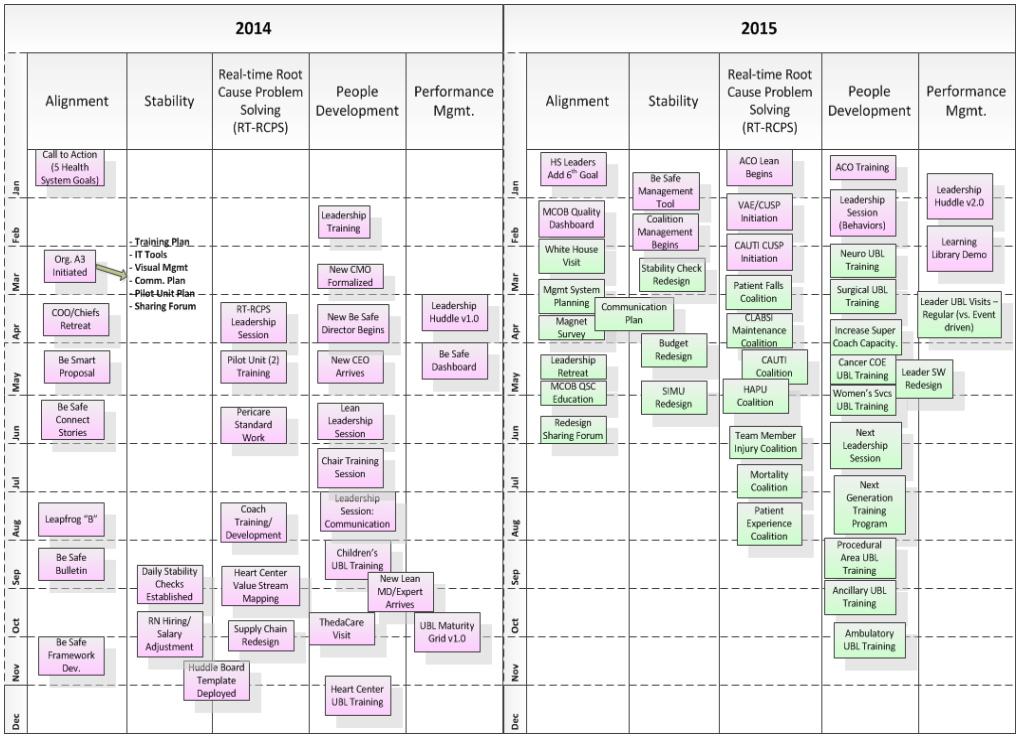
Be Safe Principles

- ***Align***
  - ✓ Create value for the customer
  - ✓ Agree on a single set of enterprise goals
  - ✓ Utilize systems thinking
- ***Improve***
  - ✓ Focus on process
  - ✓ Employ the rigor of the scientific method for problem solving
  - ✓ Understand and manage variation
  - ✓ Seek perfection
- ***Enable***
  - ✓ Lead with humility
  - ✓ Respect every individual
  - ✓ Learn continuously

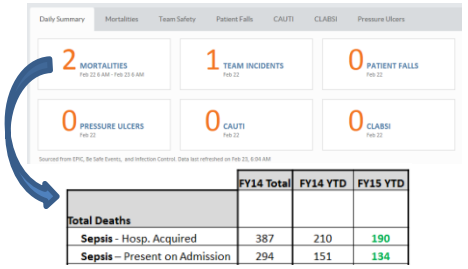
Our Framework



Implementation Activity



Priorities



	FY14 Total	FY14 YTD	FY15 YTD
Total Deaths			
Sepsis - Hosp. Acquired	387	210	190
Sepsis – Present on Admission	294	151	134

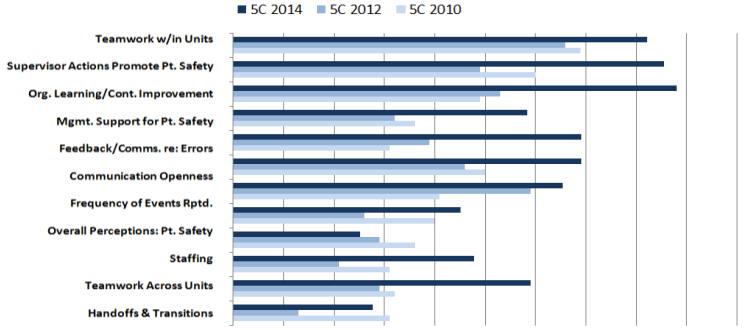
New Daily Work

9 North Daily Management
Unit-Based Leadership (UBL) Huddle Board

Goal Alignment

Health System Goals
• To become the safest place to receive care
• To be the healthiest work environment
• To provide exceptional clinical care
• To generate biomedical discovery that betters the human condition
• To train health care providers of the future to work in multi-disciplinary teams
• To ensure value-driven and efficient stewardship of resources

Front-Line Engagement



University of Virginia Health System "Be Safe" A3

Version #1 Date: March 26, 2014
Senior Leader Group

Business Need:

- To be the safest health system for workers (physical, emotional and professional) and patients, to deliver care with no harm, and ensure that patients and workers leave healthier than when they arrived.
- To build a system of population health, beginning with the health of the UVA workforce and the Charlottesville area.

Measures:

Safety:

- Employees - DART Rate – 2.8 (>700 investigations)
- Patients – Total Incidents - 11,700
- Professional – Engagement and/or "Trilogy" survey

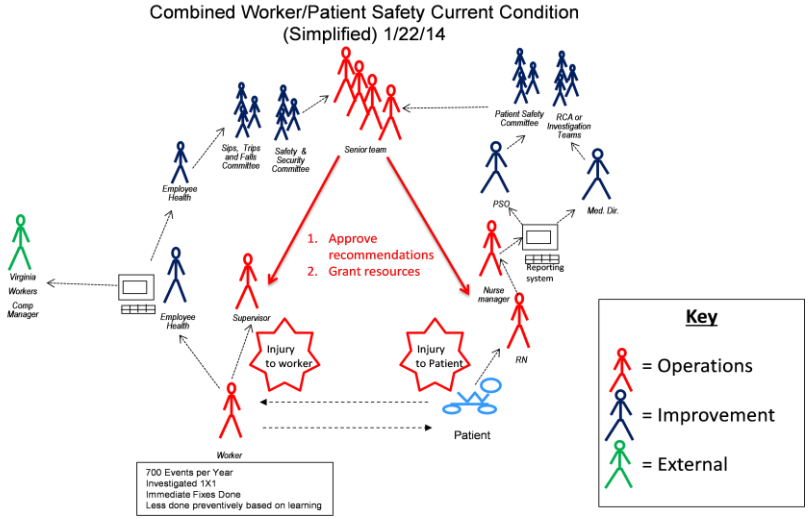
Population Health:

* Biometric screening scores
* Health risk assessment scores

Quality:

- Mortality - raw number and rate (not index)
- Increased level of care (as measure of person getting sicker while in care)
- Readmission (as measure of continuity outside acute system)
- Functional status (SF-36)
- Service measure (absolute, not relative)

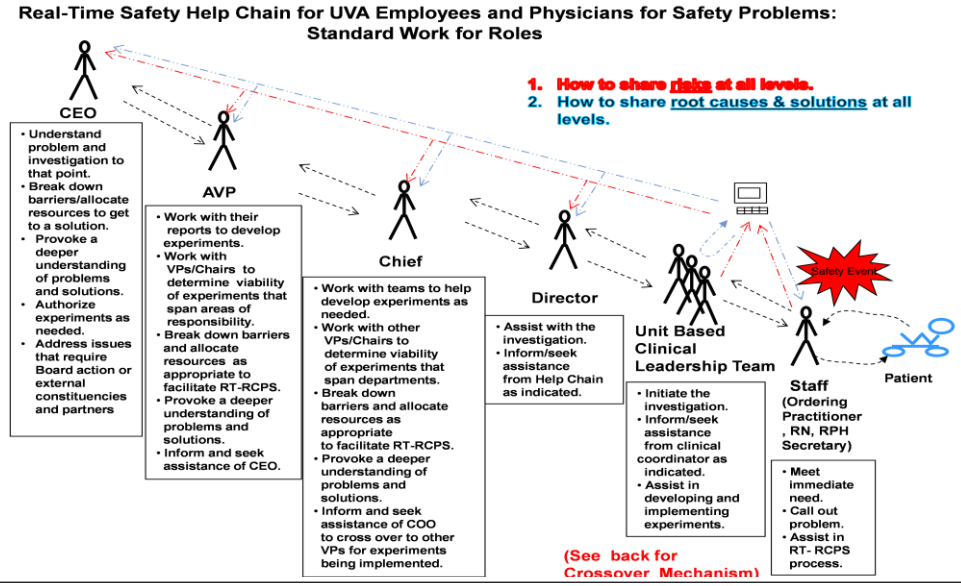
Current Condition



System Root Causes:

1. Most events not seen/reported.
2. Long/delayed process.
3. Improvement/operations separate
4. Doesn't involve front line daily
5. Learning not shared to prevent future incidents

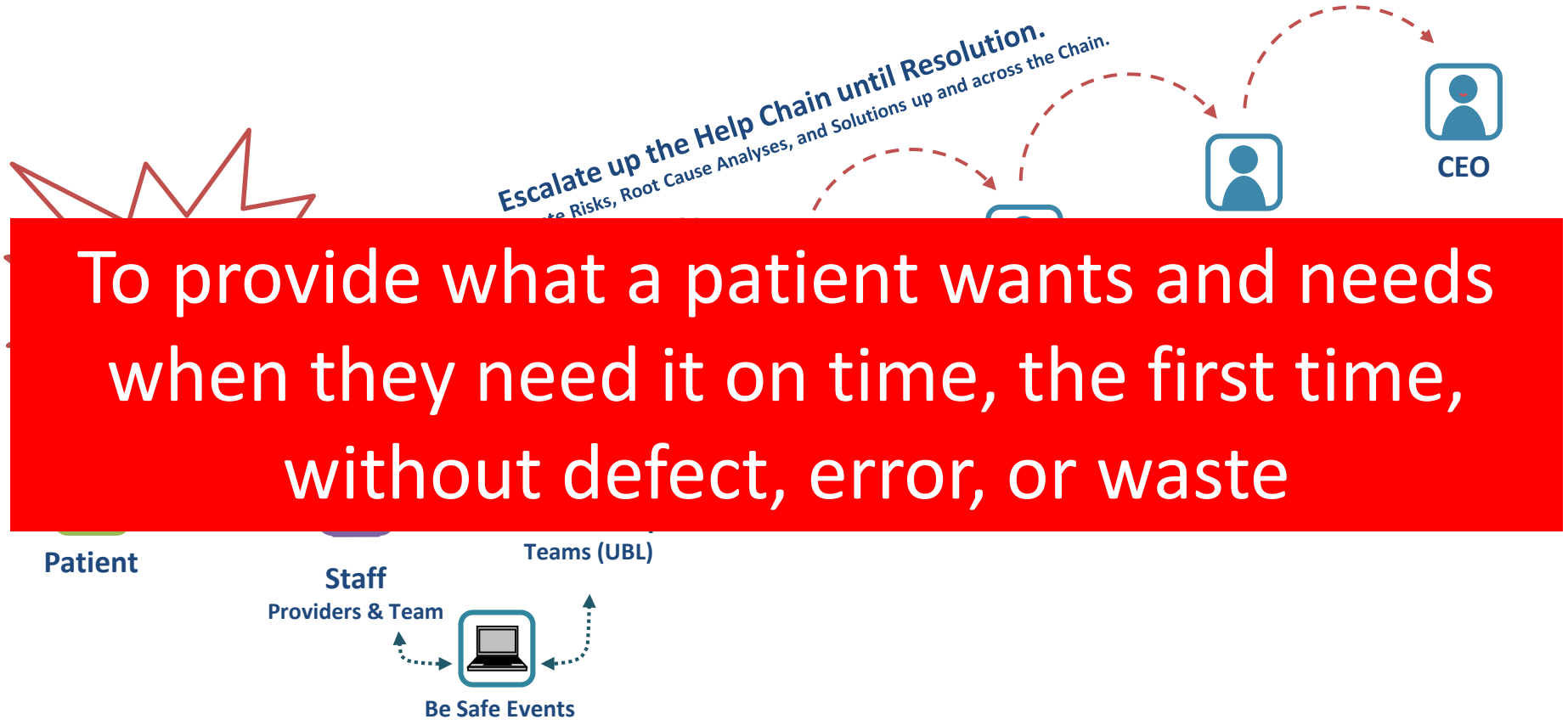
Target Condition:



Action Plan:

What	Who	By When	TOV
Produce a testable design for real-time and transparent sharing of risks and solutions.	Tracey, Jim, Rebecca H., Rick Skinner, VC	4/16/14	
Test a Unit-Based Clinical Leadership Team (UBCL) design as the first responder and capability development arm of the help chain. (starting with MICU and 5C	Lorna, Scott, Tracey, Stacey, Chris Ghaemmaghami, RN Educator lead, VC	4/16/14	
Develop a training plan to expose all employees to the "Be Safe" methods, the basics of real-time problem solving, and the expectations and design for escalating safety events.	Rebecca Schmale, Sue Galloway, Susan, Stacey, Cheri, Costi, ACMO	4/16/14	
Create a communications plan for the model unit and general audiences.	Trish, John, Scott, Bo, Tracey, VC and Kathleen (as consultant)	4/16/14	
Deploy a leadership team visual room and draft standard work for how the leadership team will use the room	Stacey, Rick Skinner, Greg ?, Tracey	4/16/14	
Redesign Fridays Before Five to capitalize on the set aside time to make progress on the key organizational issues monitored there	FBF Steering Committee	4/16/14	
Practice real time problem solving for all safety events on 5C and the MICU to develop capability.	Rick/Senior Team/VC	Starting 4/16/14	

Real-Time **Help Chain** for Safety Problems: Standard Work for Roles



To provide what a patient wants and needs when they need it on time, the first time, without defect, error, or waste

	Patient	Staff Providers & Team	Be Safe Events	Teams (UBL)		CEO
Role Responsibilities:	• **Meet immediate need** • Call out problem • Assist in RT-RCPS* • Report event in "Be Safe Events"	• **Initiate RT-RCPS*** • Inform/seek assistance as needed • Develop and implement experiments • Update investigation and learnings	• **Support UBL investigations and development of experiments** • Provoke a deeper understanding of problems and solutions • Enable experiments that span departments	• Provoke a deeper understanding of problems and solutions • **Allocate resources and break down barriers** to facilitate RT-RCPS*	• Provoke a deeper understanding of problems and solutions • Allocate resources and break down barriers to facilitate RT-RCPS*	• Address issues that require Board or external action

***RT-RCPS:** Real Time - Root Cause Problem Solving

Rapid Early Returns

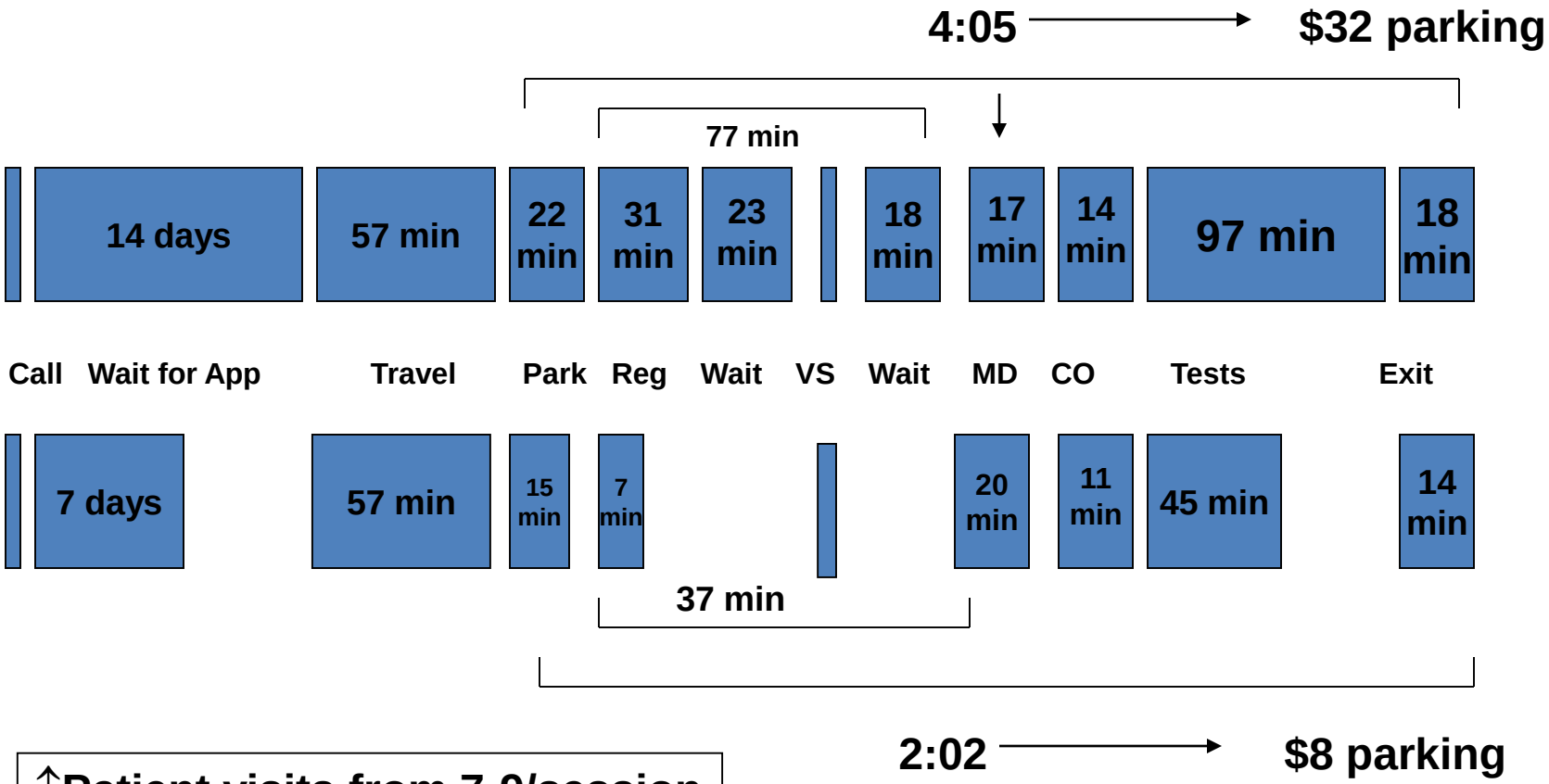
• 70 fewer CABSI/63 fewer UTI (62% reduction)	• $2.6M
• 109 fewer pediatric infections	• $4.2M
• 53 fewer sepsis deaths (27% reduction)	• $1.83M
• 36 fewer falls (22% reduction)	• $82,800
• 46 fewer pressure ulcers (17% reduction)	• $1.6M
• 95% reduction in stockouts	• $3.2M supplies • $21M wasted nursing staff time
• 96 fewer worker injuries (10% reduction)	• **Priceless!!!**

Build a Parking Garage or Fix the Care Process?

Not more…better

Not volume….value

Modifying the Patient Experience



↑Patient visits from 7-9/session
↑ On –Time Performance
↑ Patient satisfaction (waiting)
↓ Lag days

Will Academic Medicine Be Part of the Solution or Part of the Problem ?