HIMSS AsiaPac16

22-25 August 2016 · Queen Sirikit National Convention Center, Bangkok, Thailand

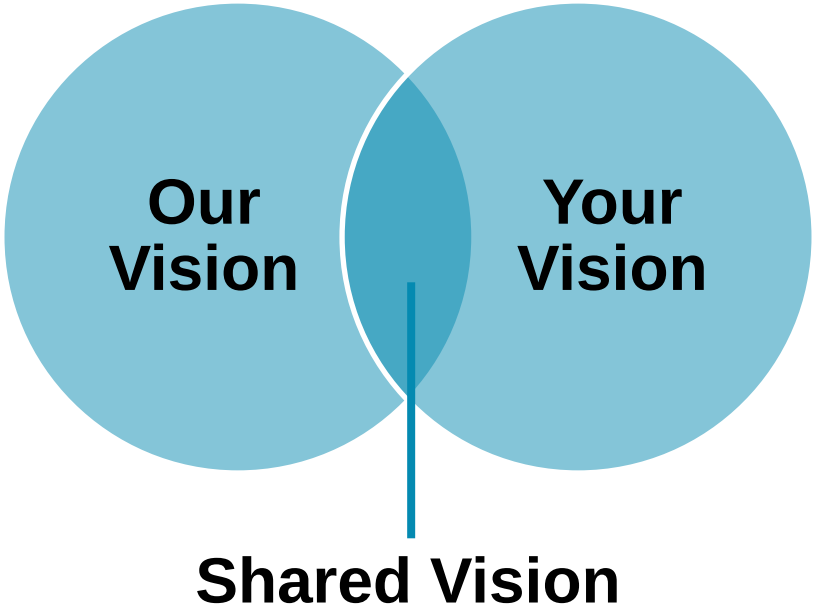
ADVANCING DIGITAL & PATIENT-CENTERED CARE

HIMSS Analytics EMRAM (EMR Adoption Model) & Patient Engagement: Trends and Value Proposition

HIMSS ASIAPAC ROADSHOW

May 2016

Shared Vision



Better health through Information Technology

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What drives the vision?

- In 1999, 98,000+ Americans die in hospitals each year as the result of medical errors*
- 7,000 estimated to die from medication errors alone
- 57,000 die each year without appropriate healthcare
- In Europe, missed healthcare opportunities have a €70 billion cost to European society

These challenges are shared Worldwide

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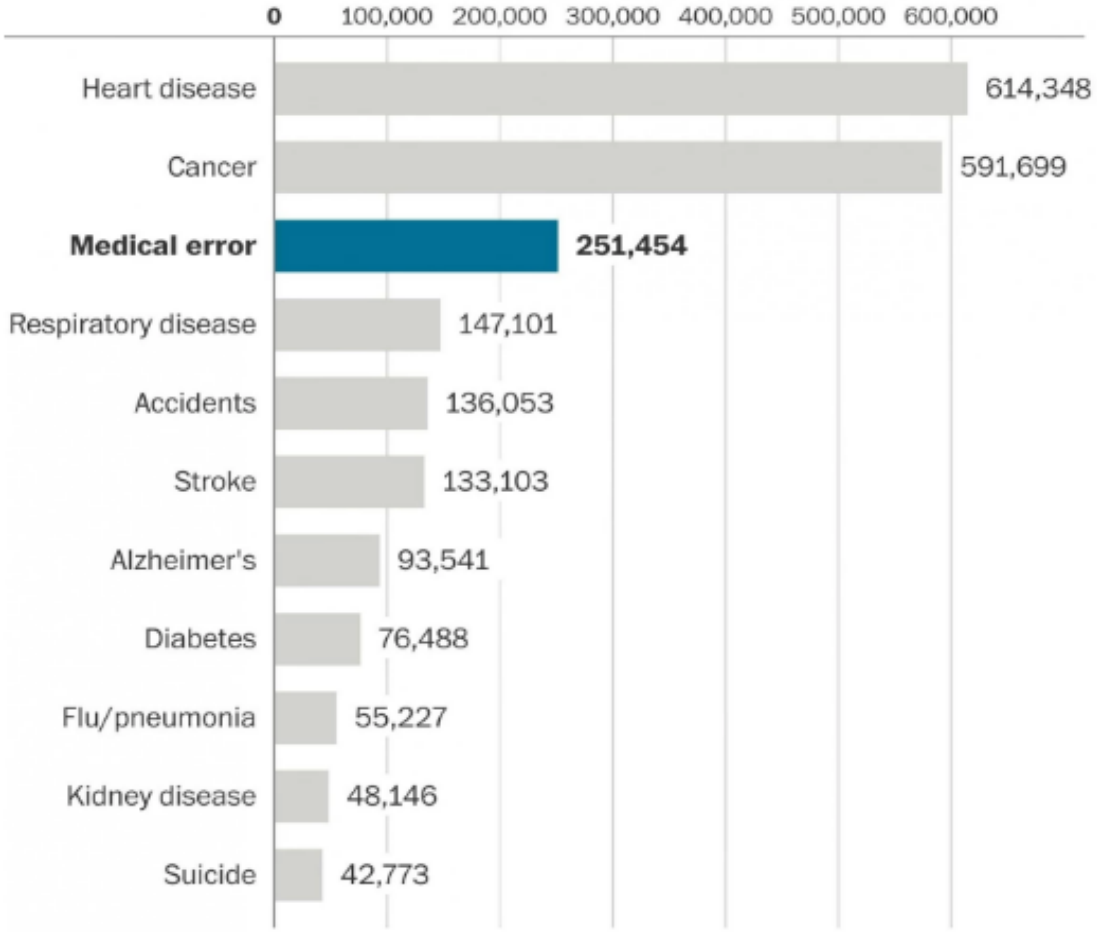
* Kohn, Linda T. *To Err Is Human: Building a Safer Health System*. Washington, D.C.: National Academy Press, 2000.

Death in the United States

Johns Hopkins University researchers estimate that medical error is now the third leading cause of death. Here's a ranking by yearly deaths.



Source: National Center for Health Statistics, BMJ

THE WASHINGTON POST

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Why?

Lack of Relevant Information at the Point of Care

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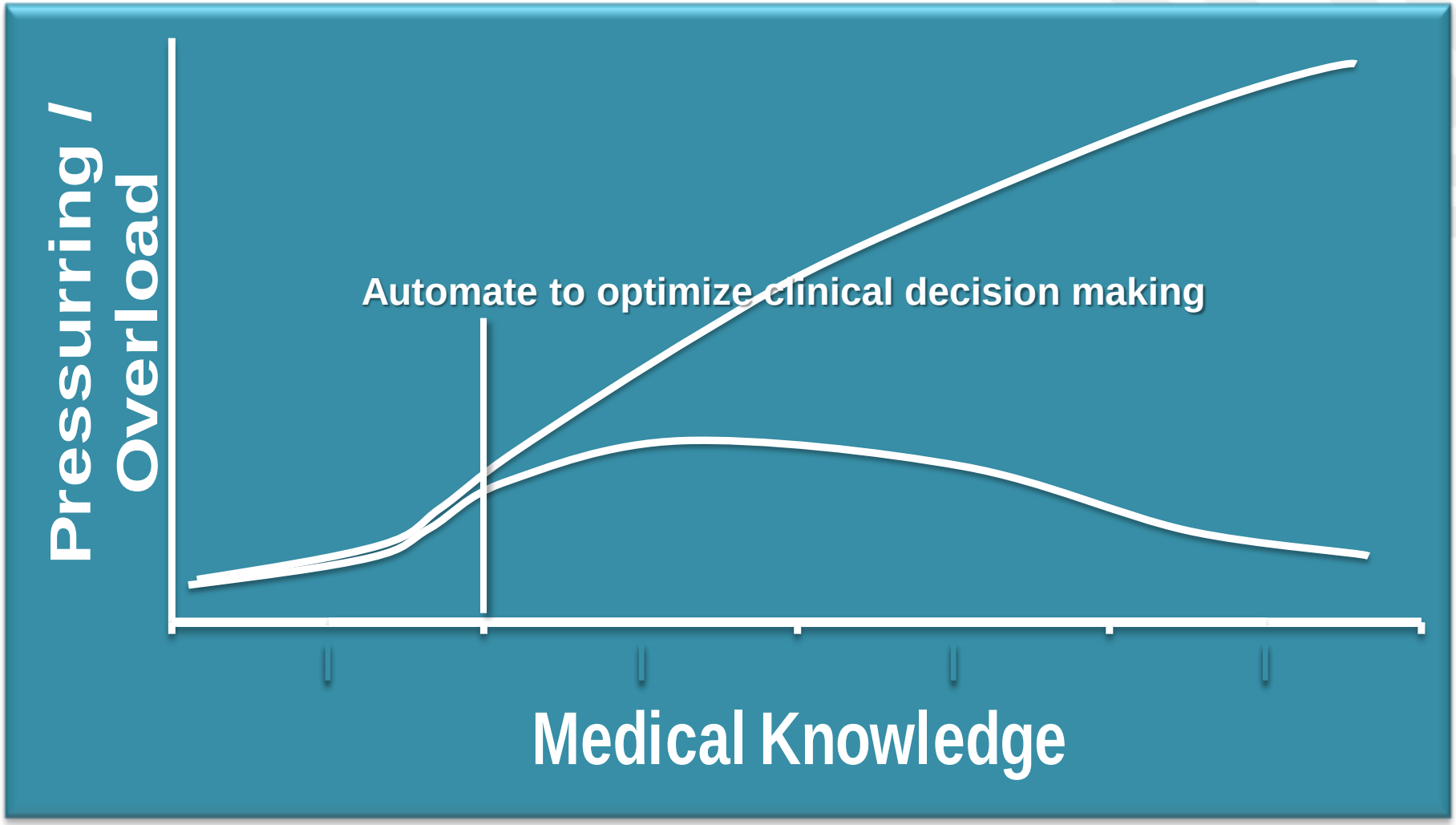

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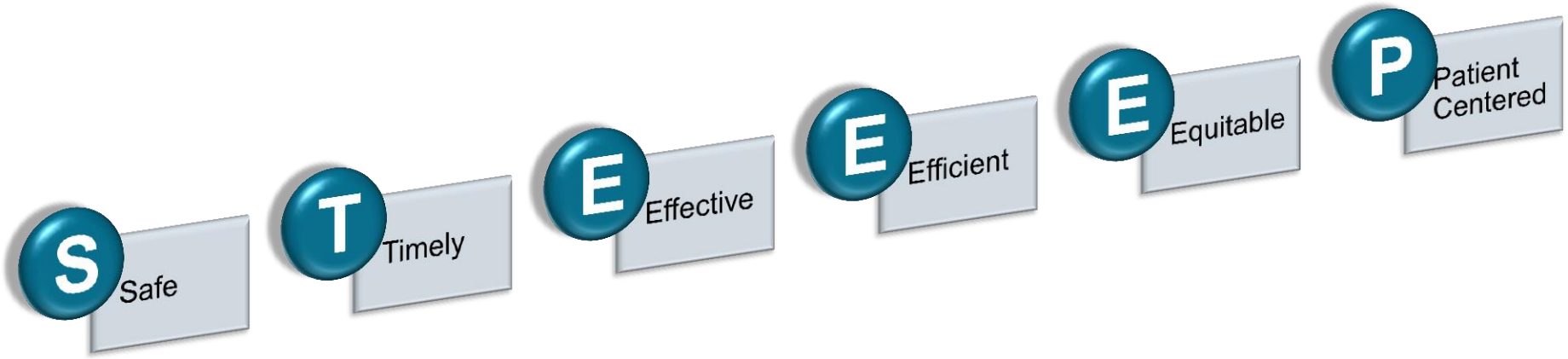
Information technology is a MUST

Using information technology, we can help make healthcare …



Crossing the quality chasm: A new health system for the 21st century. (2001). Washington, D.C.: National Academy Press.

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Ultimate Goal

Ensure the ***most relevant*** information is available to the decision maker at the ***right place*** and at the ***right time***

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How can we correct this problem?

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Global HIMSS Analytics EMR Adoption Model℠

STAGE	CUMULATIVE CAPABILITIES
Stage 7	Complete EMR, Data Analytics to Improve Care
Stage 6	Physician documentation (templates), full CDSS, Closed loop medication administration
Stage 5	Full R-PACS
Stage 4	CPOE, Clinical Decision Support (clinical protocols)
Stage 3	Clinical documentation, CDSS (error checking)
Stage 2	CDR, Controlled Medical Vocabulary, CDS, HIE capable
Stage 1	Ancillaries - Lab, Rad, Pharmacy - All Installed
Stage 0	All Three Ancillaries Not Installed

A progressively sophisticated roadmap …

that enables Quality, Safety, & Operations Efficiencies

It will not happen overnight …

… it takes time to make "significant" national progress

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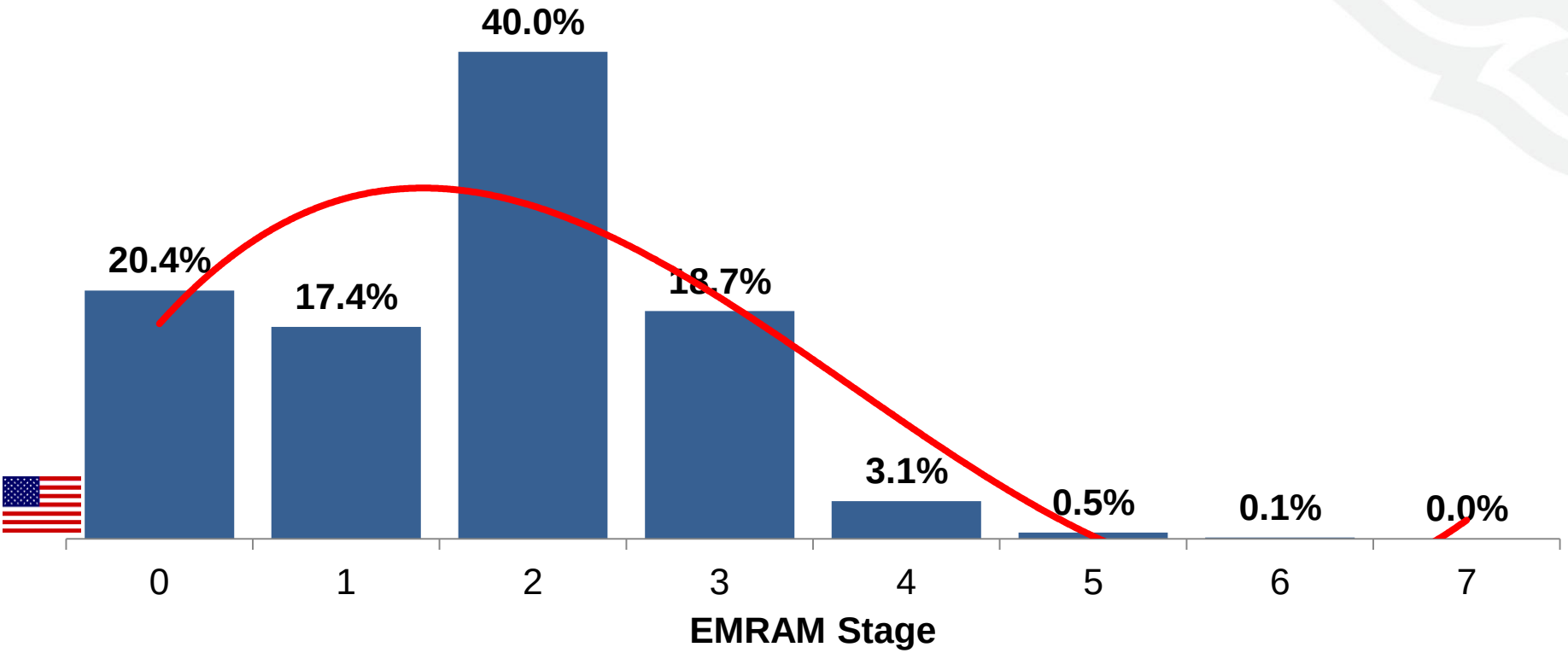
2006



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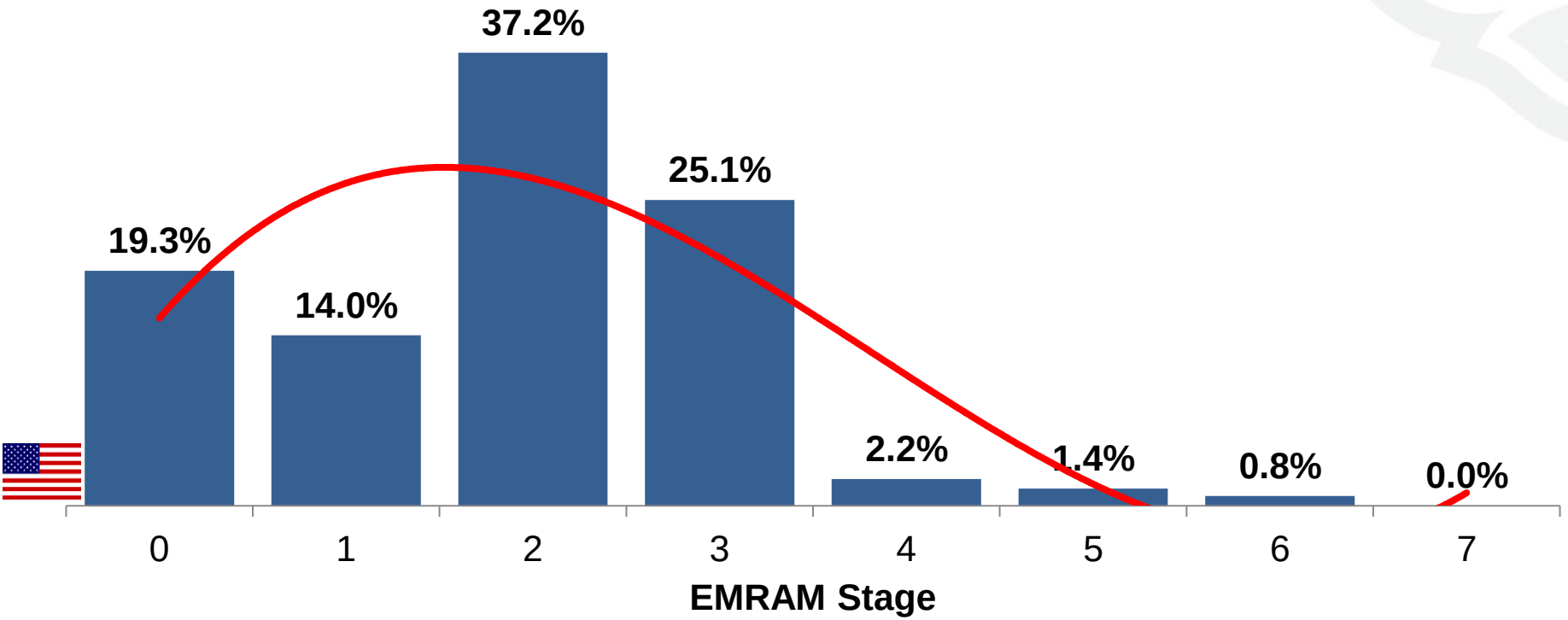
2007



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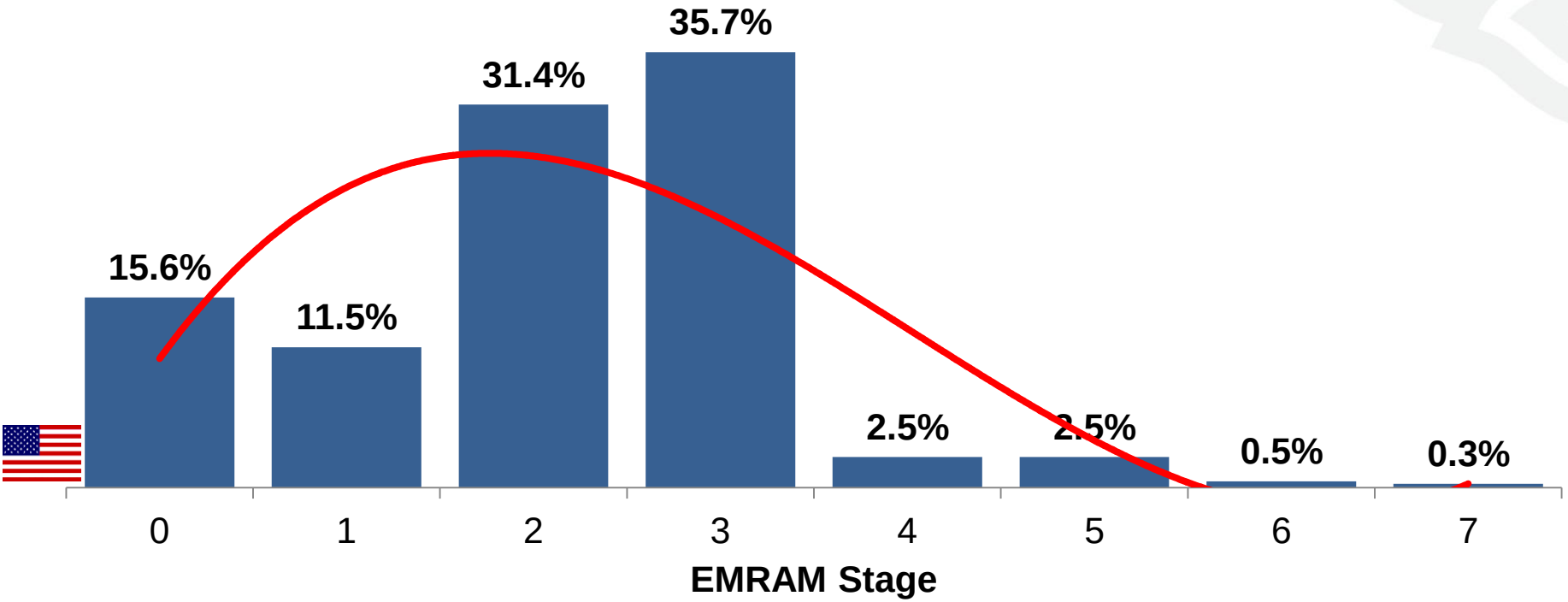
2008



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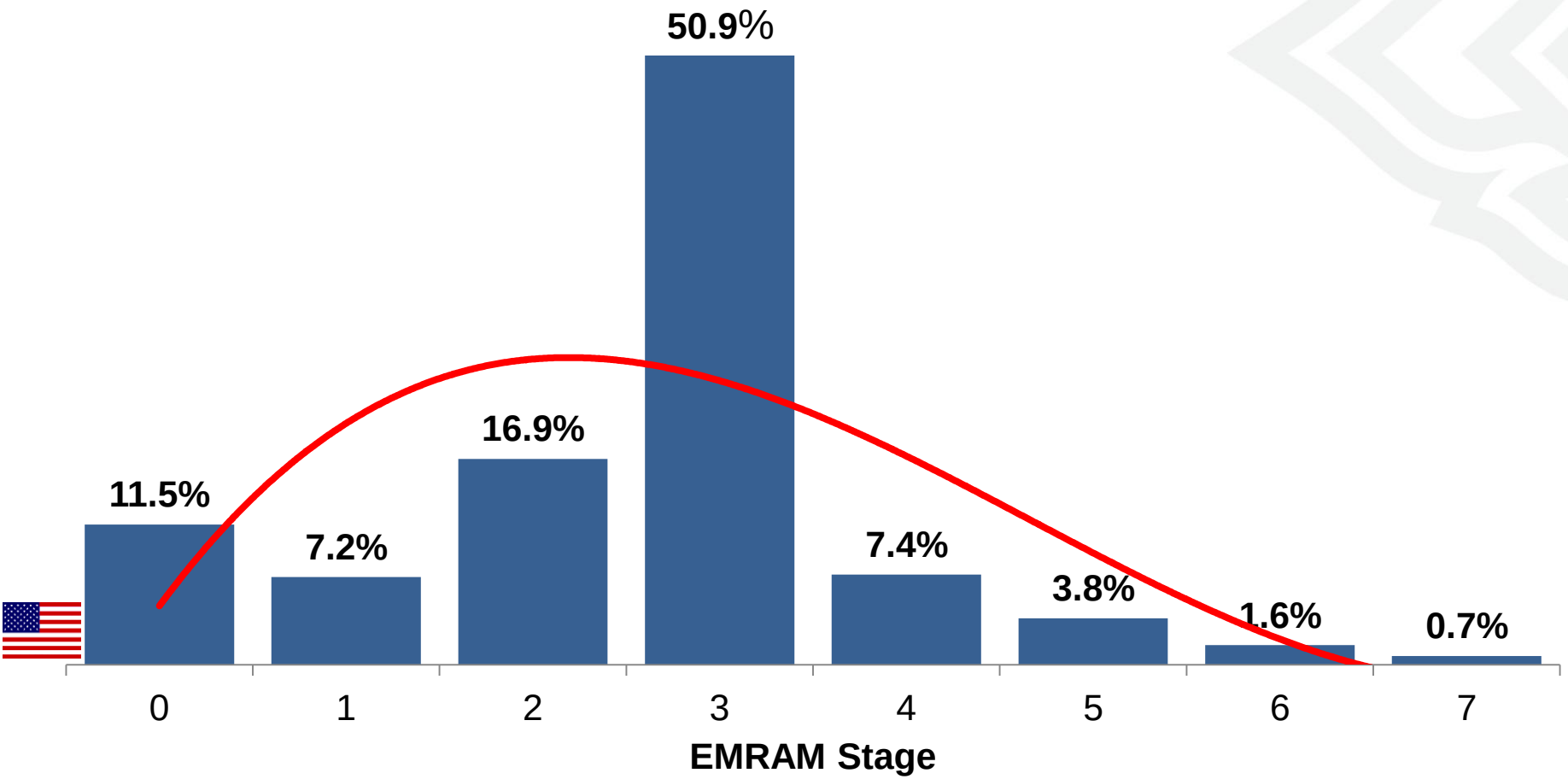
2009



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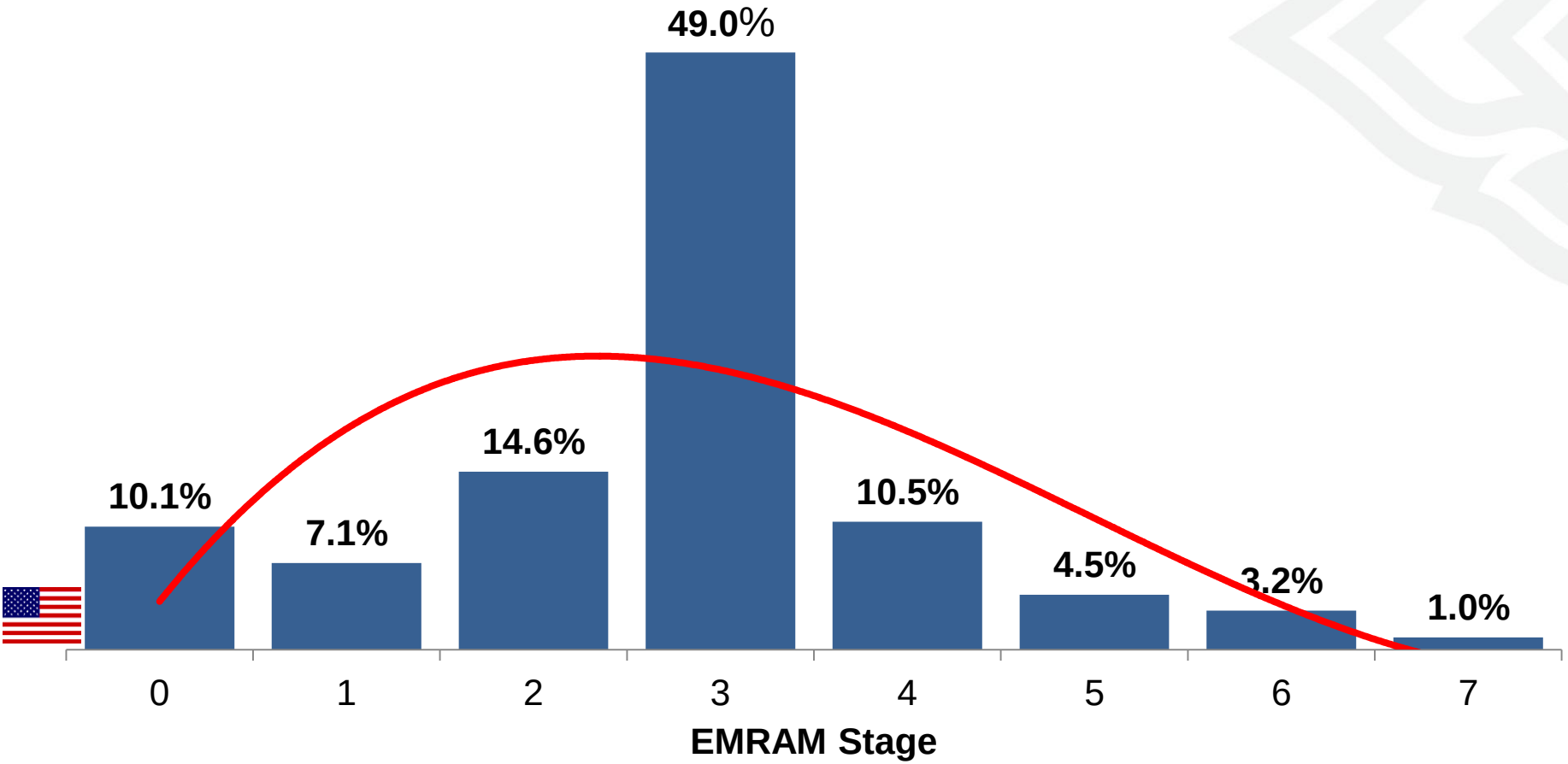
2010



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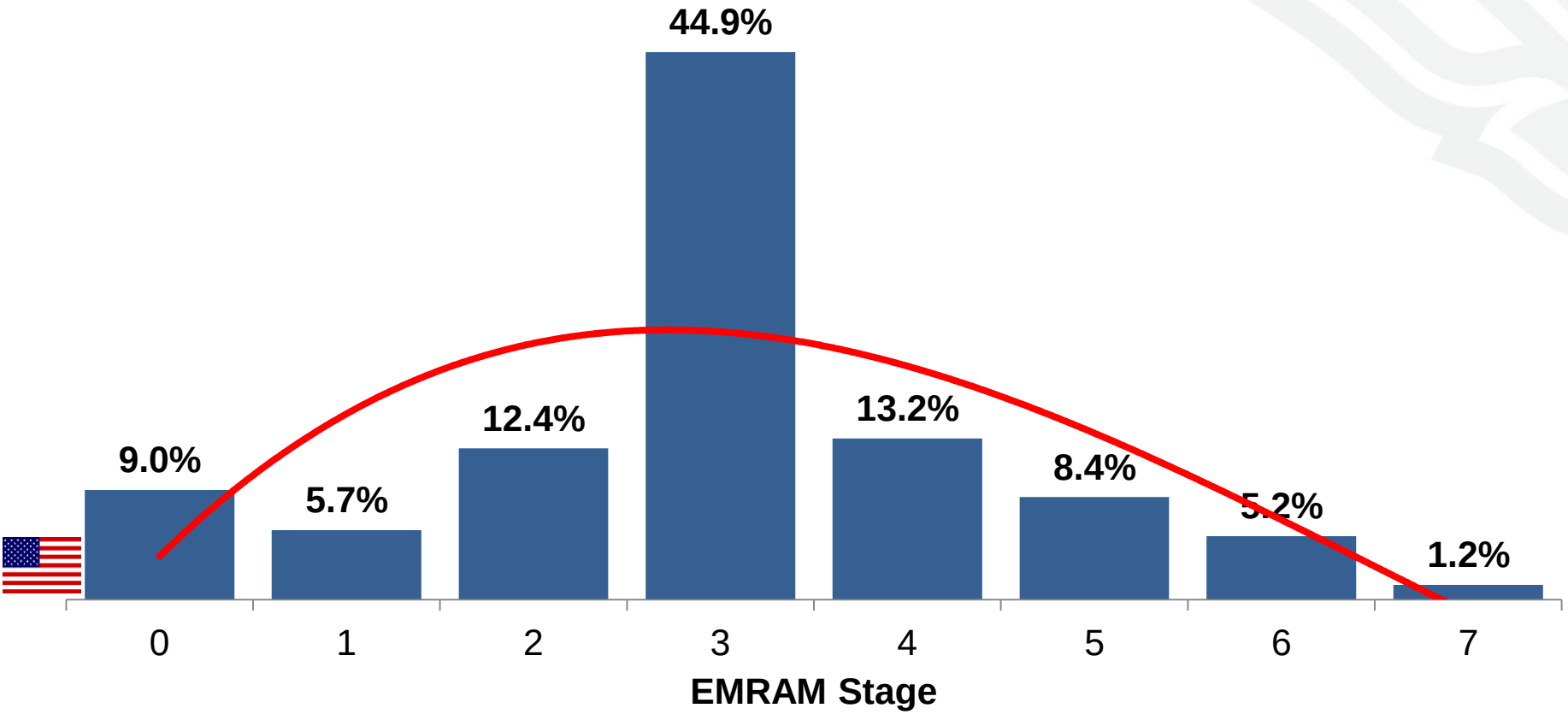
2011



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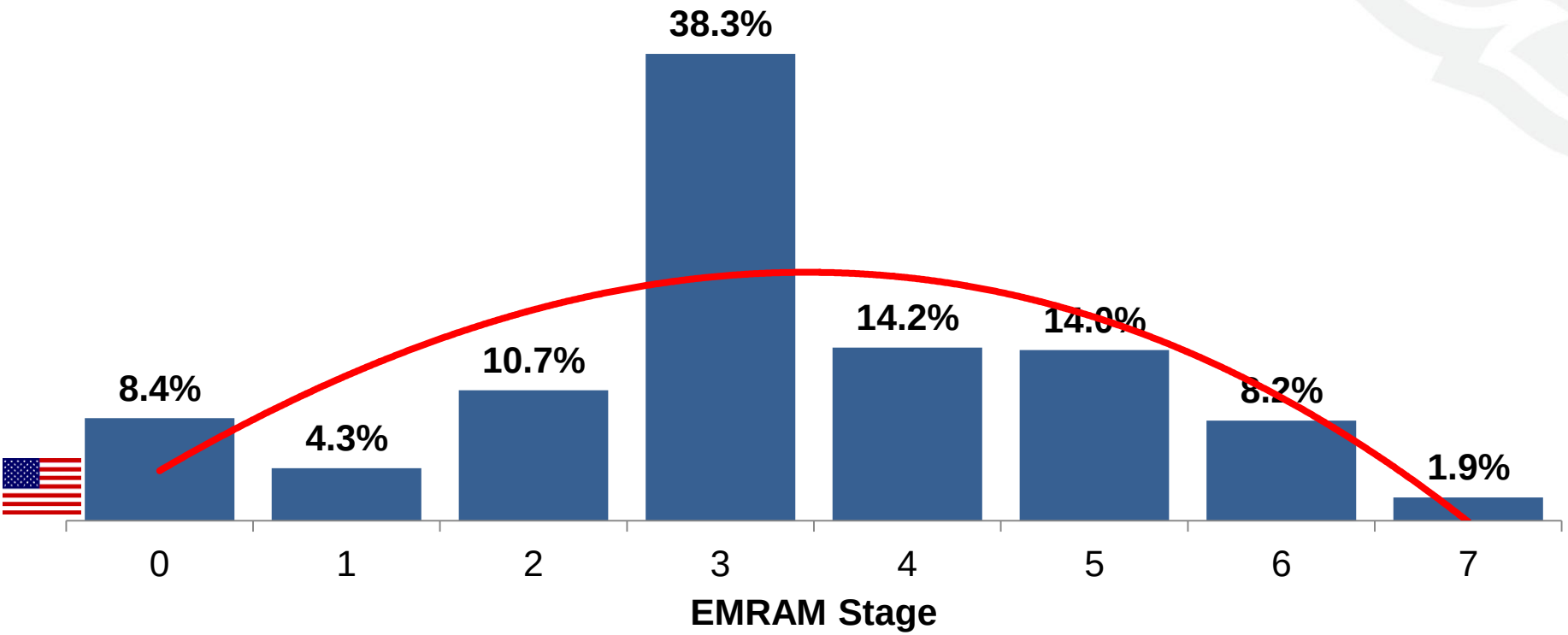
2012



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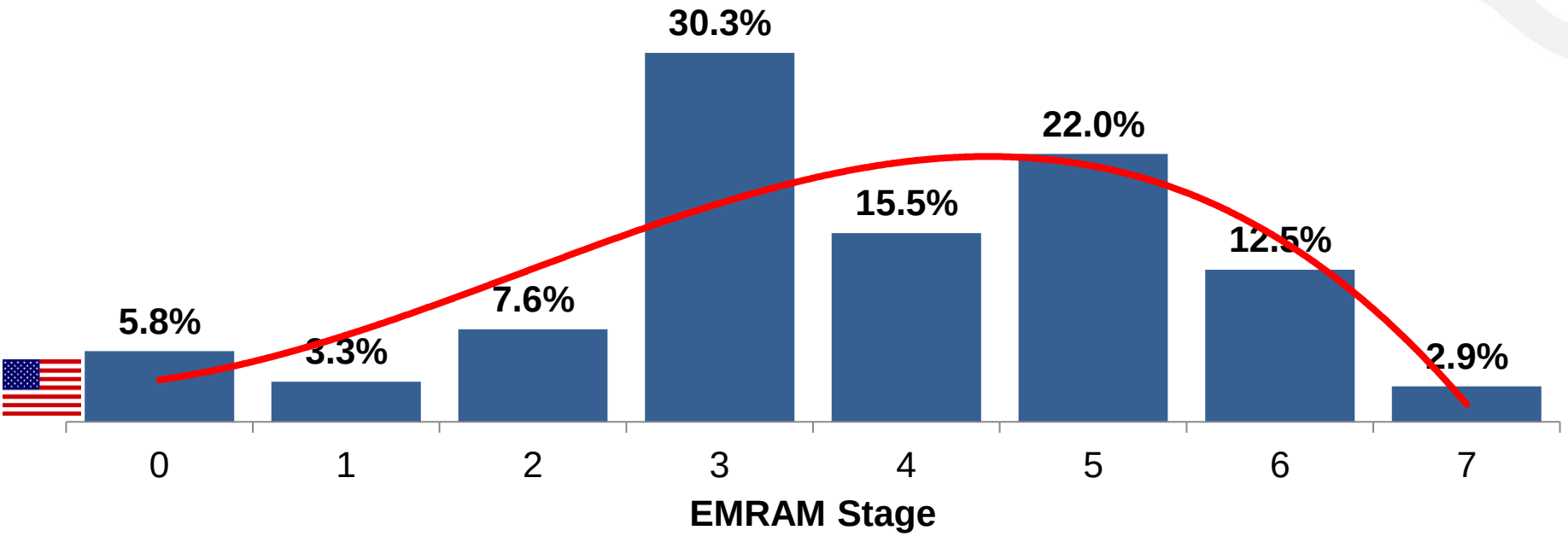
2013



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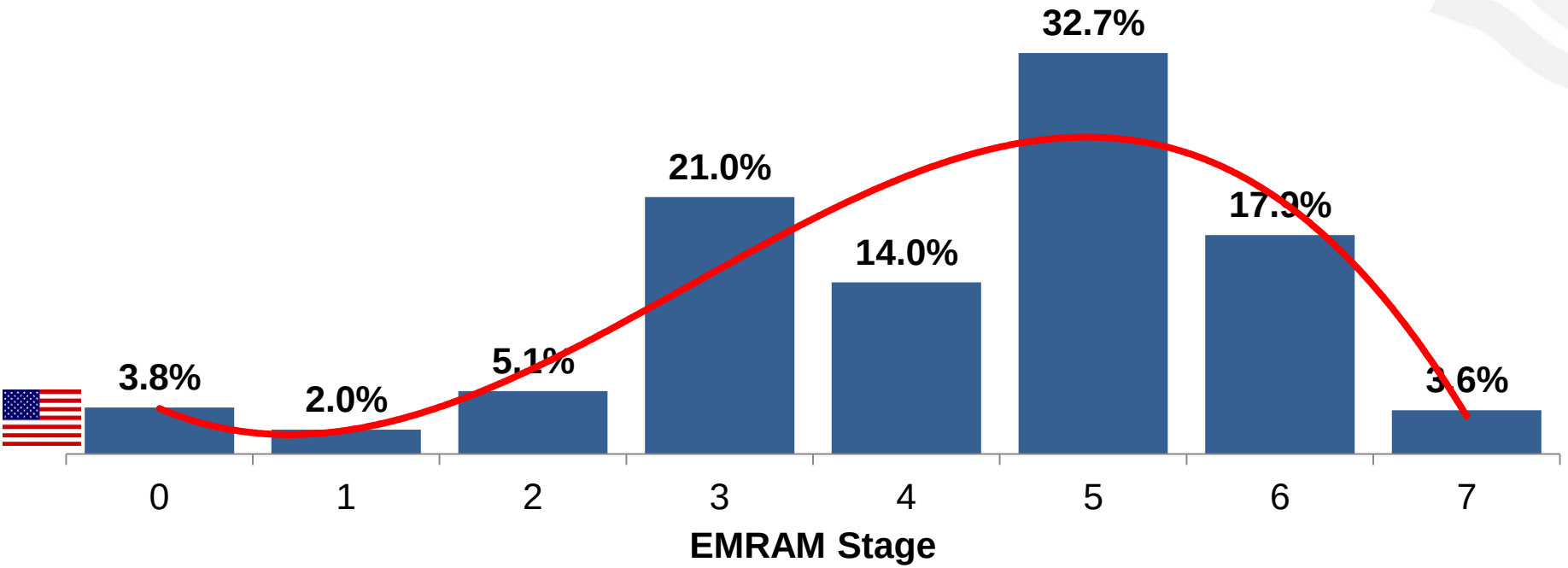
2014



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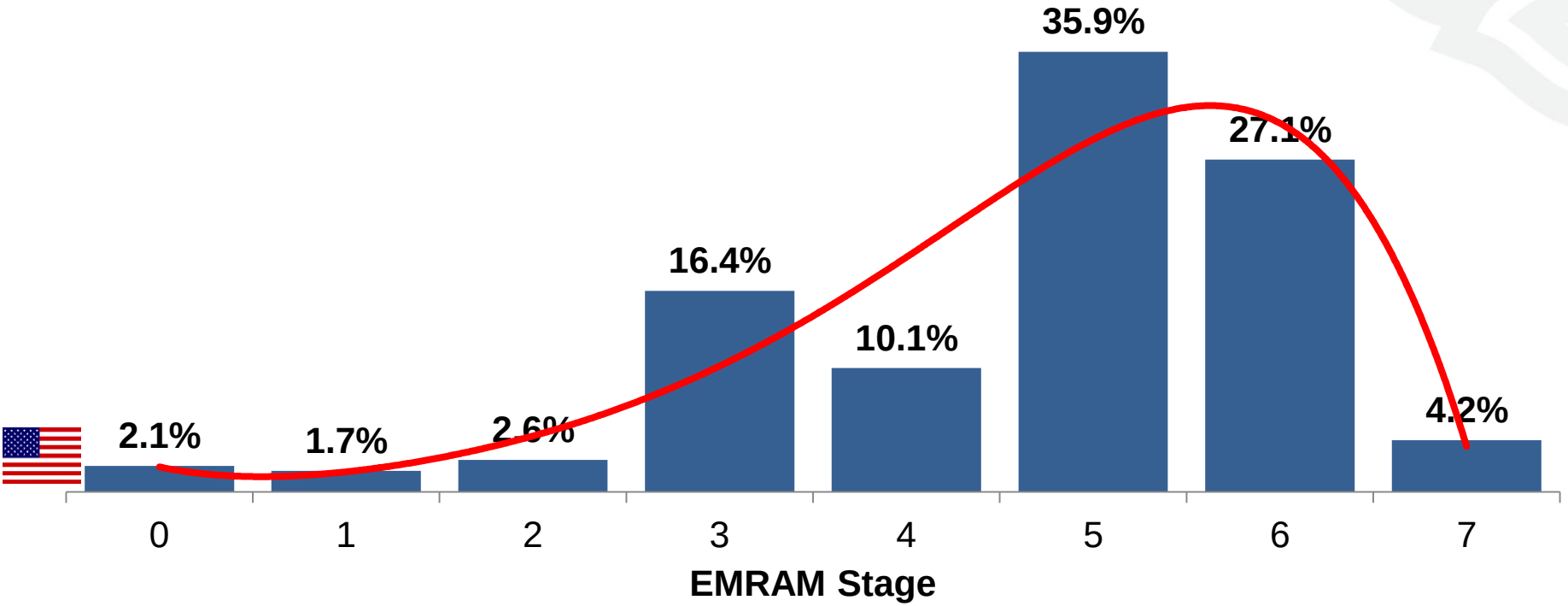
2015



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EMR Adoption Model℠ (2006-2015) United States

This is how long it takes to make "significant" national progress

Stage	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Stage 7	0.0%	0.0%	0.3%	0.7%	1.0%	1.2%	1.9%	2.9%	3.6%	4.2%
Stage 6	0.1%	0.8%	0.5%	1.6%	3.2%	5.2%	8.2%	12.5%	17.9%	27.1%
Stage 5	0.5%	1.4%	2.5%	3.8%	4.5%	8.4%	14.0%	22.0%	32.8%	35.9%
Stage 4	3.1%	2.2%	2.5%	7.4%	10.5%	13.2%	14.2%	15.5%	14.0%	10.1%
Stage 3	18.7%	25.1%	35.7%	50.9%	49.0%	44.9%	38.3%	30.3%	21.0%	16.4%
Stage 2	40.0%	37.2%	31.4%	16.9%	14.6%	12.4%	10.7%	7.6%	5.1%	2.6%
Stage 1	17.4%	14.0%	11.5%	7.2%	7.1%	5.7%	4.3%	3.3%	2.0%	1.7%
Stage 0	20.4%	19.3%	15.6%	11.5%	10.1%	9.0%	8.4%	5.8%	3.7%	2.1%
	N = 4,237	N = 5,073	N = 5,166	N = 5,281	N = 5,337	N = 5,458	N = 5,458	N = 5,449	N = 5,467	N = 5,460

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Cross Regional EMRAM Score Distribution# (2015)

Stage	Asia Pacific	Middle East	United States	Canada	Europe
Stage 7	0.5%	0.0%	4.2%	0.2%	0.1%
Stage 6	3.9%	11.3%	27.1%	0.9%	4.6%
Stage 5	7.4%	21.1%	35.9%	3.4%	17.5%
Stage 4	1.7%	3.5%	10.1%	1.6%	5.5%
Stage 3	0.6%	19.0%	16.4%	31.2%	3.2%
Stage 2	32.7%	19.0%	2.6%	31.5%	30.2%
Stage 1	4.9%	9.9%	1.7%	13.9%	14.2%
Stage 0	48.2%	16.2%	2.1%	17.3%	24.1%
	N = 770	N = 142	N = 5,460	N = 641	N = 2,395

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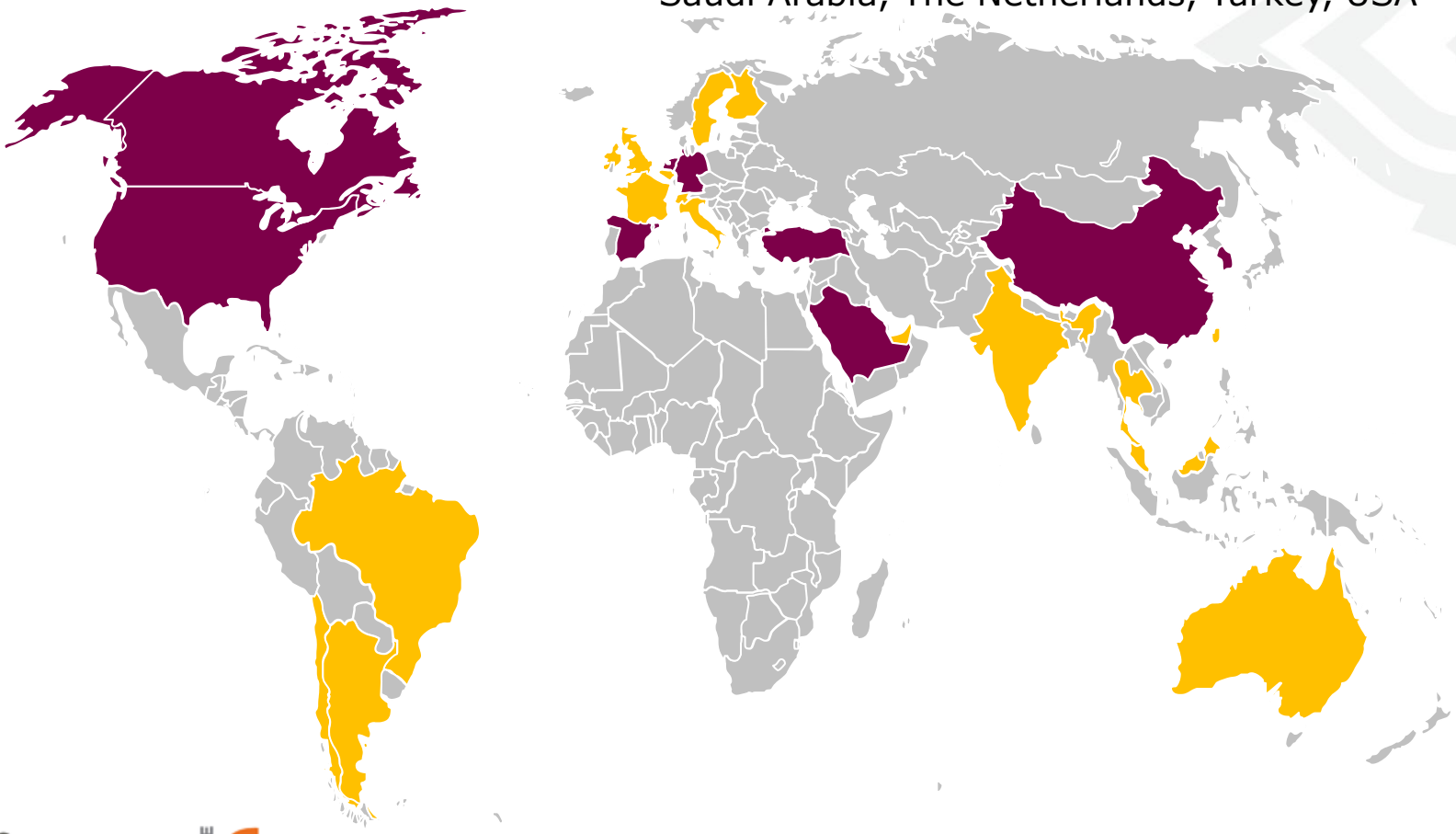
HIMSS Analytics STAGE 7

ADVANCING DIGITAL & PATIENT-CENTERED CARE

Canada, China, Germany, South Korea, Spain, Saudi Arabia, The Netherlands, Turkey, USA



HIMSS Analytics STAGE 6

Argentina, Australia, Belgium, Brazil, Canada, Chile, China, Denmark, Finland, France , India, Ireland, Italy, Malaysia, Saudi Arabia, Singapore, Switzerland, Taiwan, Thailand, The Netherlands, Turkey, UAE, UK, USA

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Benefits realization from IT

HIMSS Analytics Database® correlation studies with other comprehensive data sources.

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Profile of a Stage 7 Organization

- **Use data to drive improved outcomes related to …**
  - Process, Financial, Clinical, Quality & Safety
- **Are paperless, or near paperless (create no paper)**
  - All clinically relevant data is in the EMR
- **Are fully committed to continuous process improvement through collaboration**
  - Strong IT leadership and executive champions
  - Clinician / end-user champions

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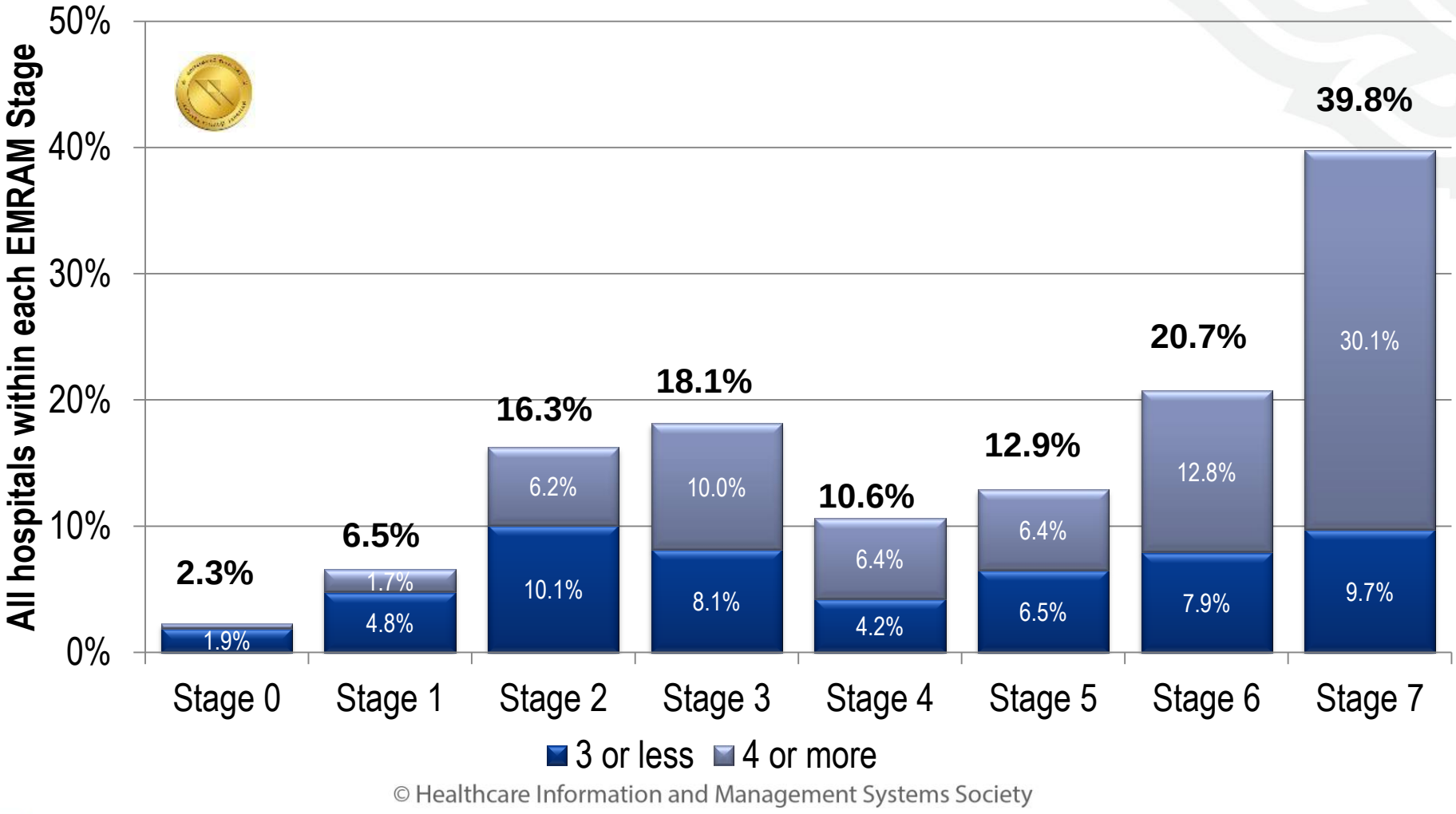
Top Performing Hospitals By Number of Quality Metrics Excelling In By EMRAM Stage



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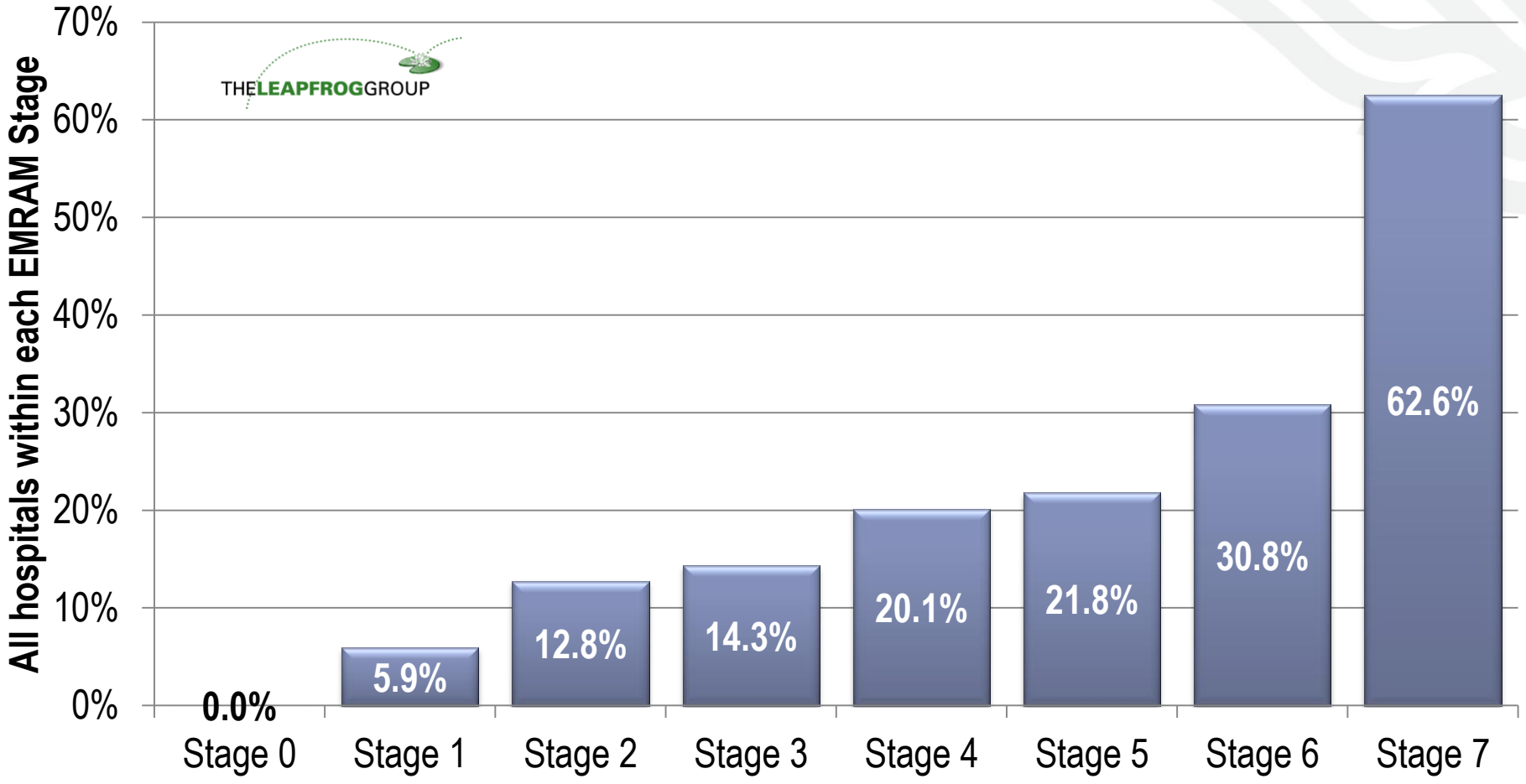
Source: HIMSS Analytics

Hospitals with an "A" Leapfrog Hospital Safety Grade By EMRAM Stage



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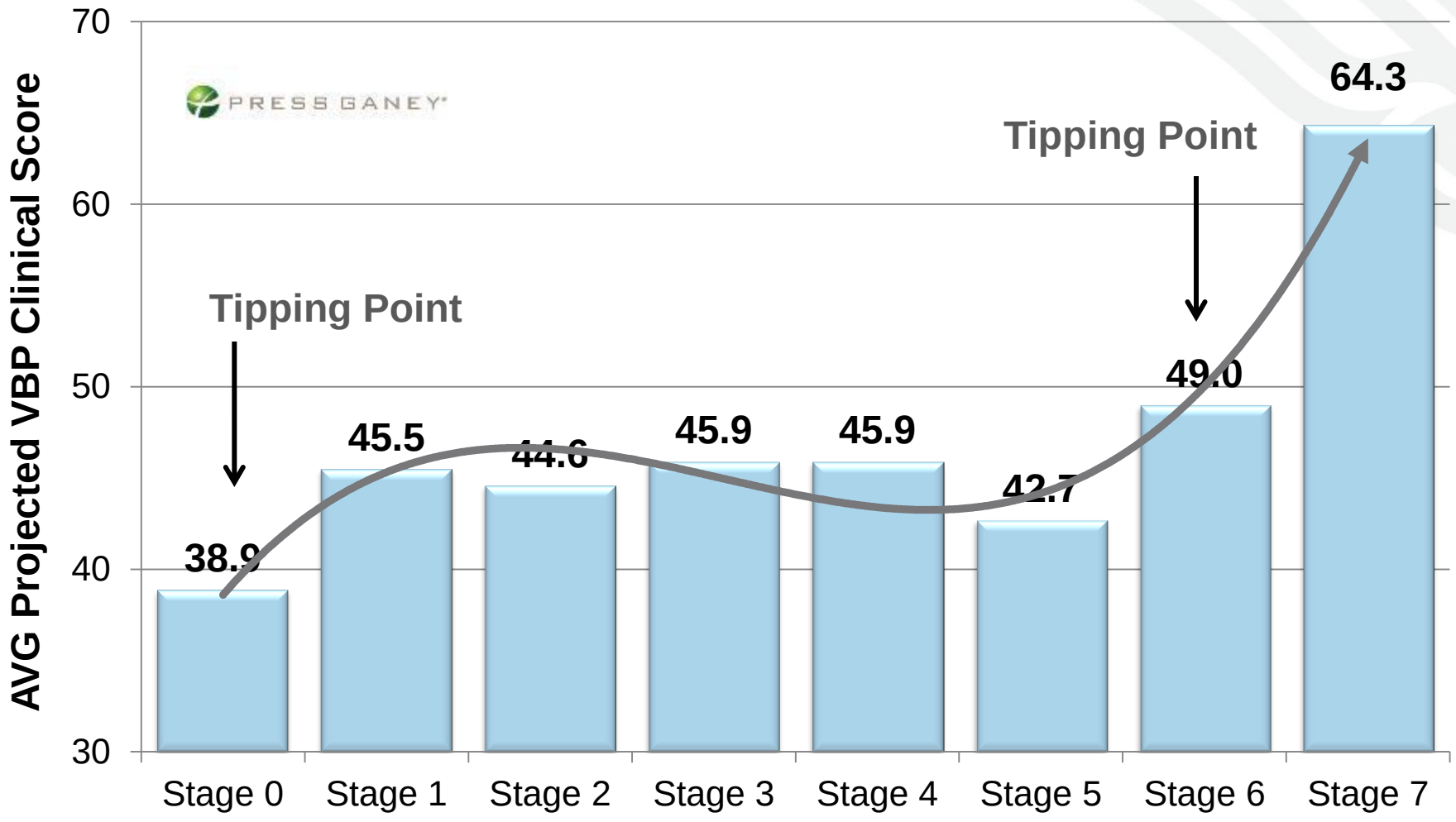
Source: HIMSS Analytics

Clinical Performance Scores



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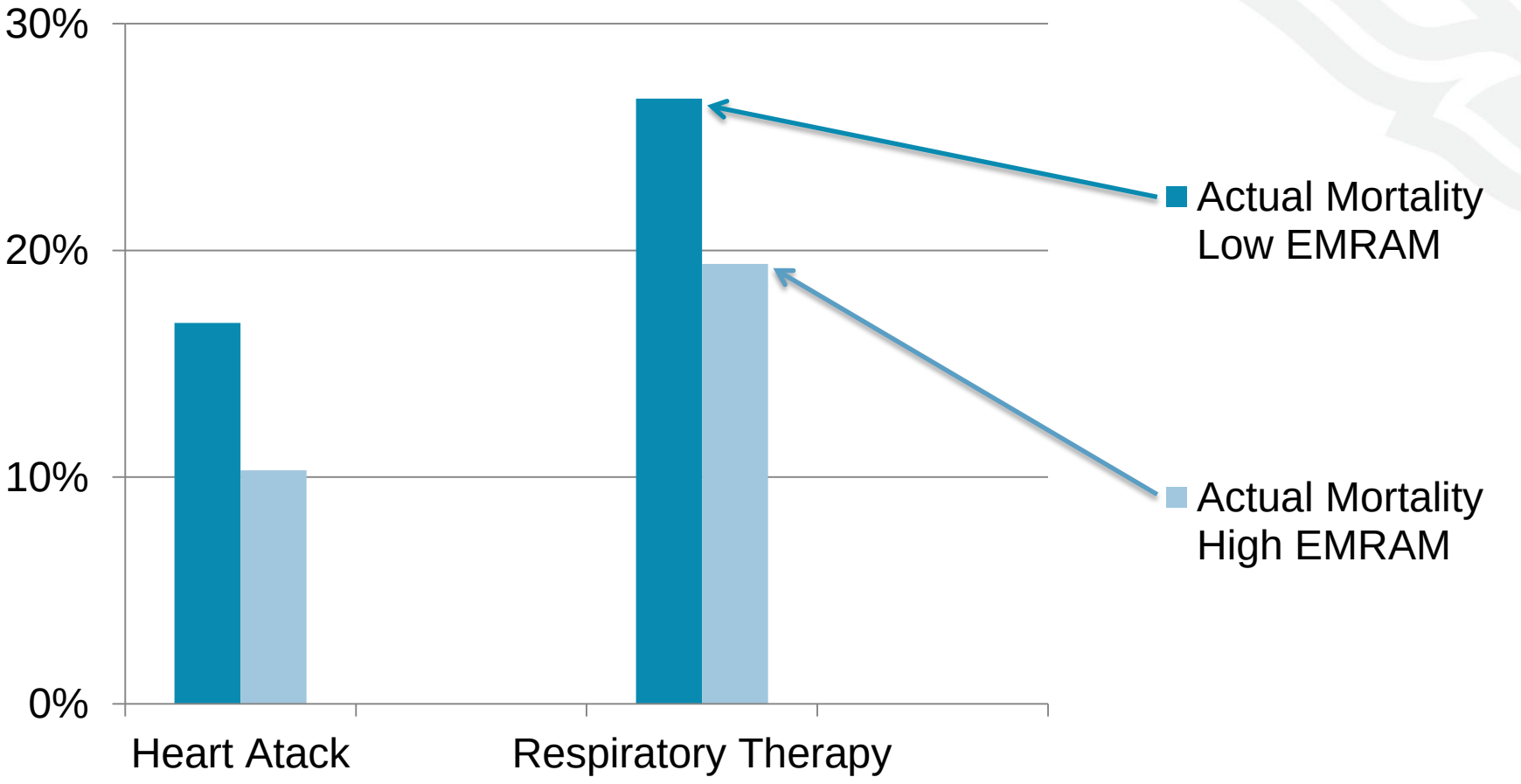
Source: HIMSS Analytics

Mortality Rates



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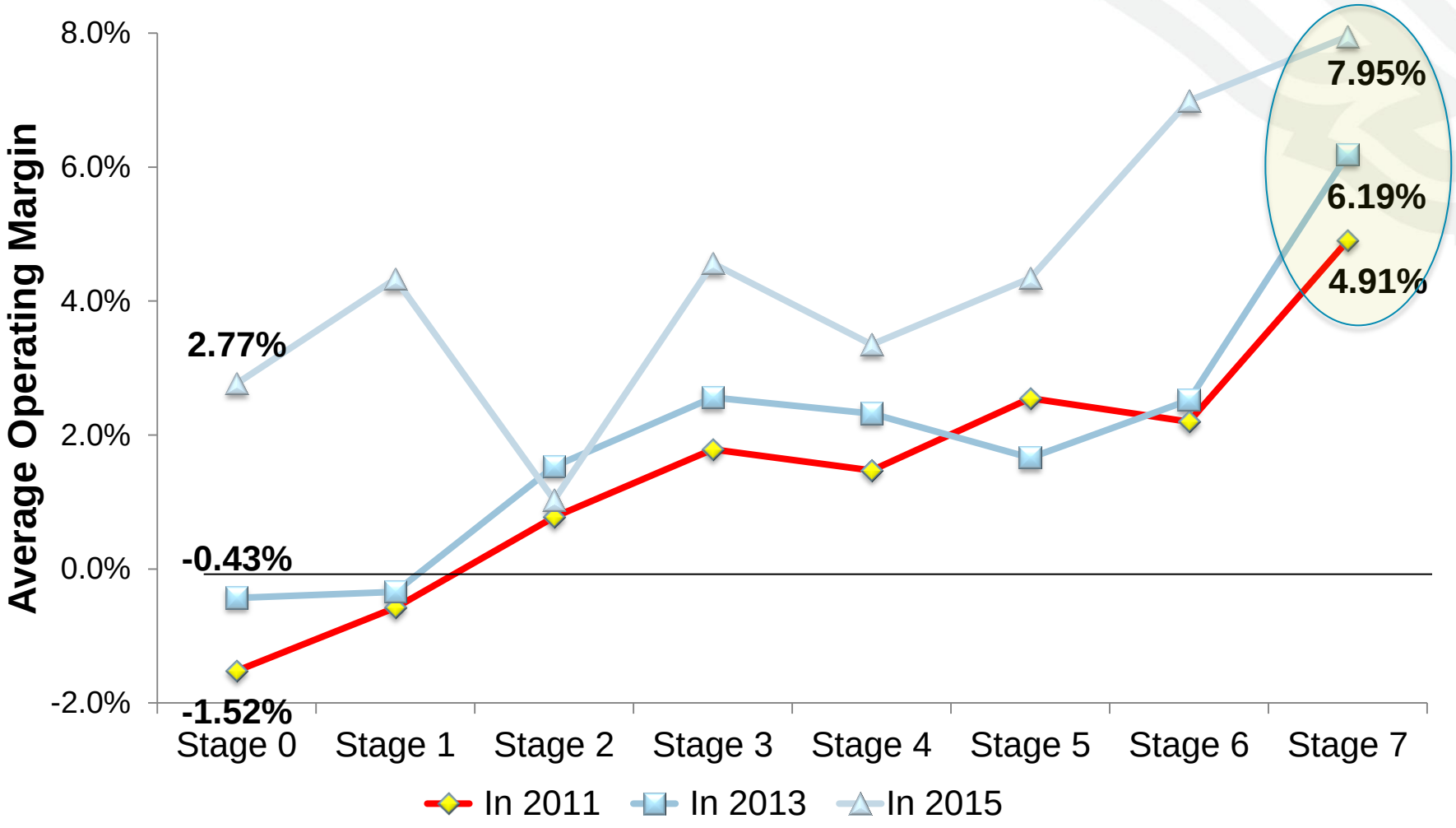
Financial Performance (Profitability)



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Stage 7 Case Studies

Actual case studies from validated Stage 7 hospitals

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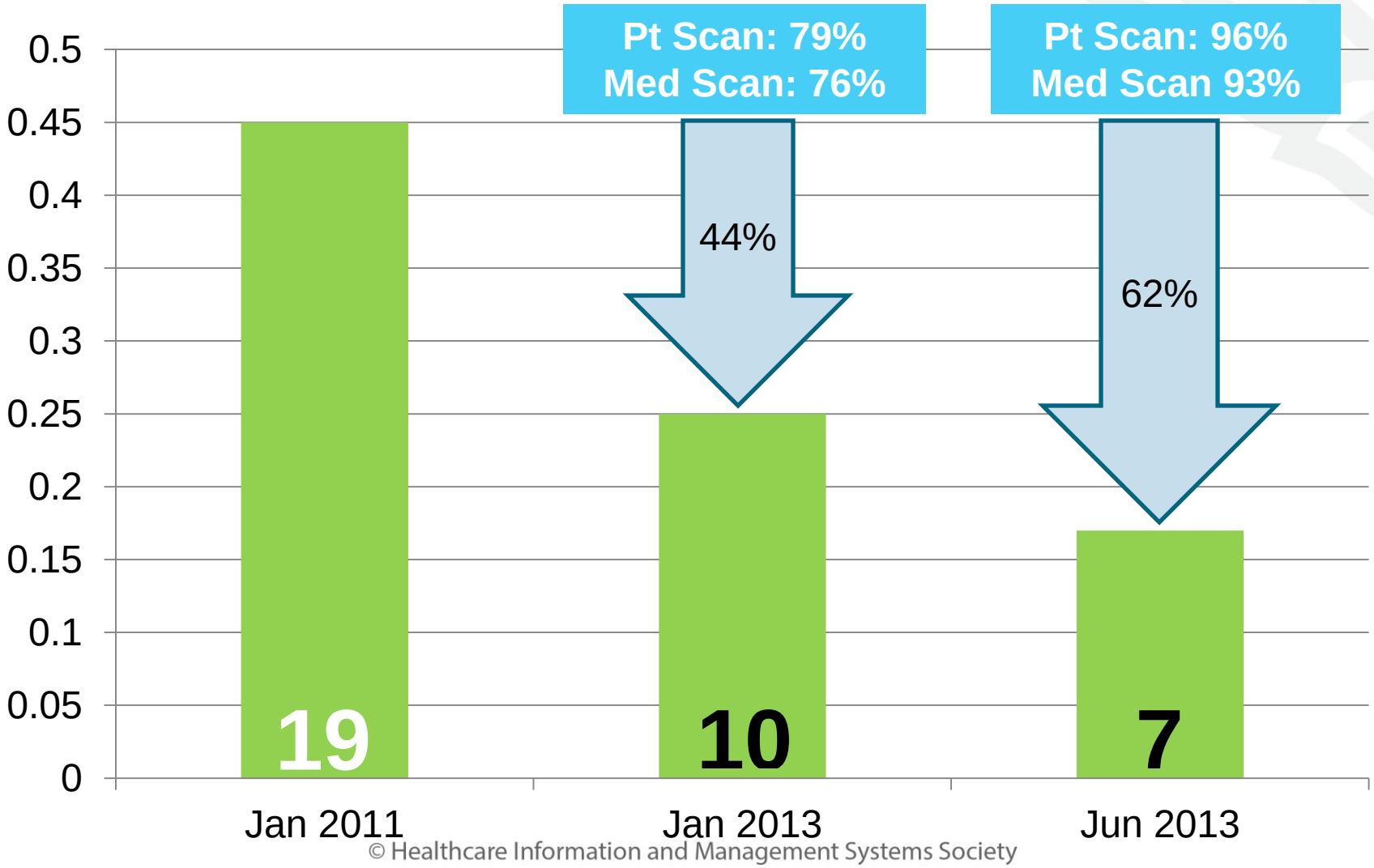
Medication Administration Errors per 1000 CMI-Adjusted Pt Days



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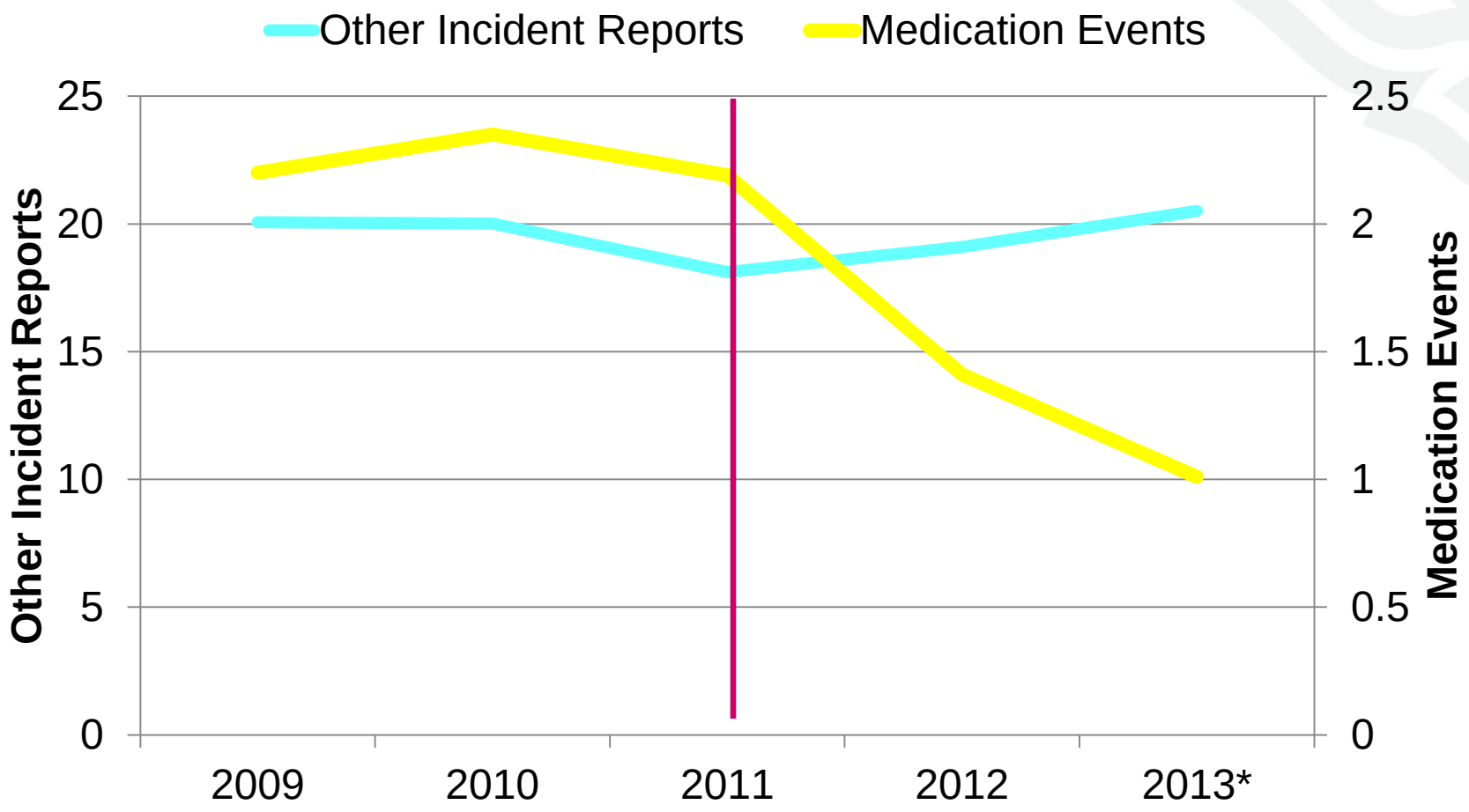
Annual Incident Reports 2009 – 2013* per 1000 CMI-Adjusted Pt Days



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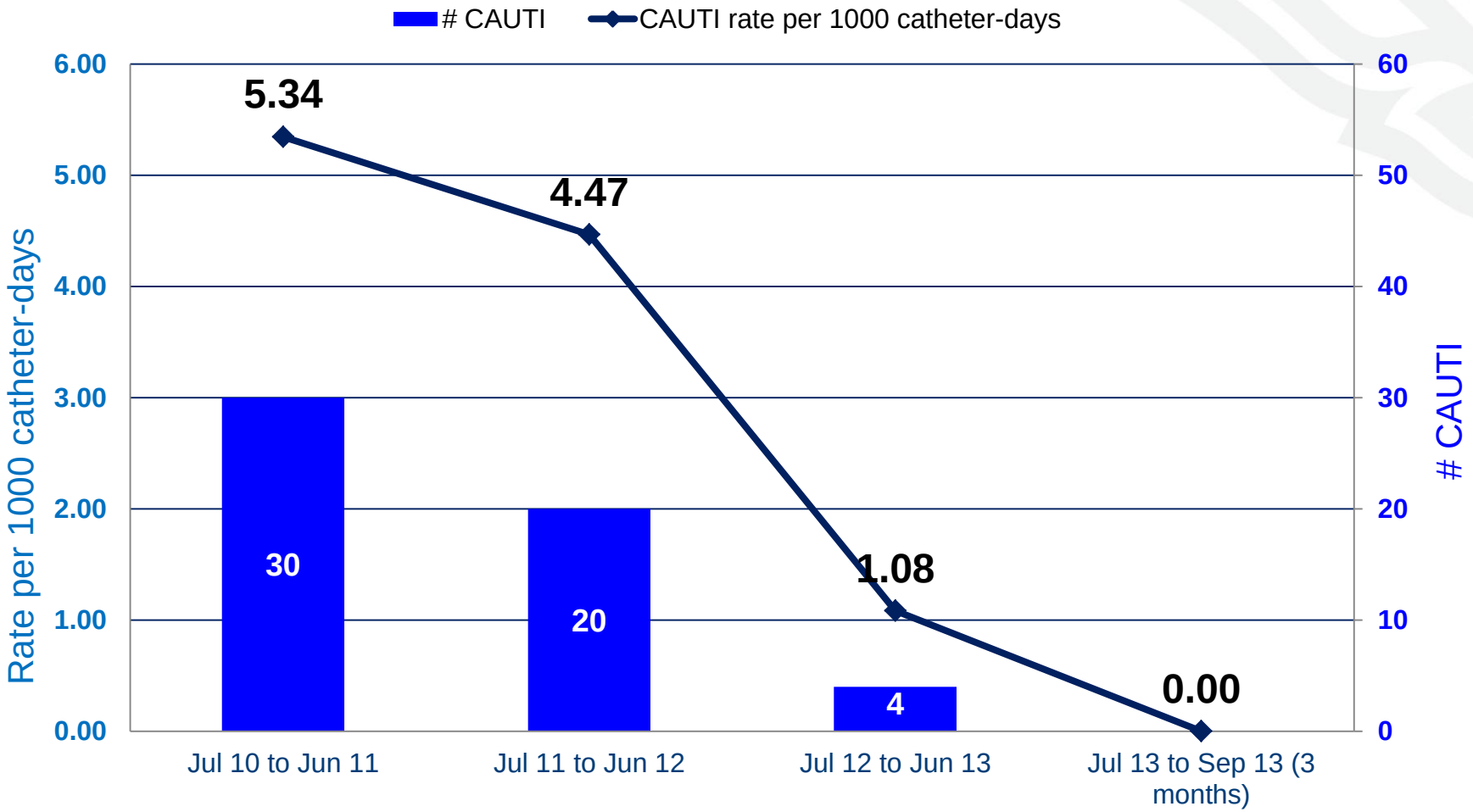
Catheter-Associated Urinary Tract Infection (CAUTI)

rate per 1000 catheter-days



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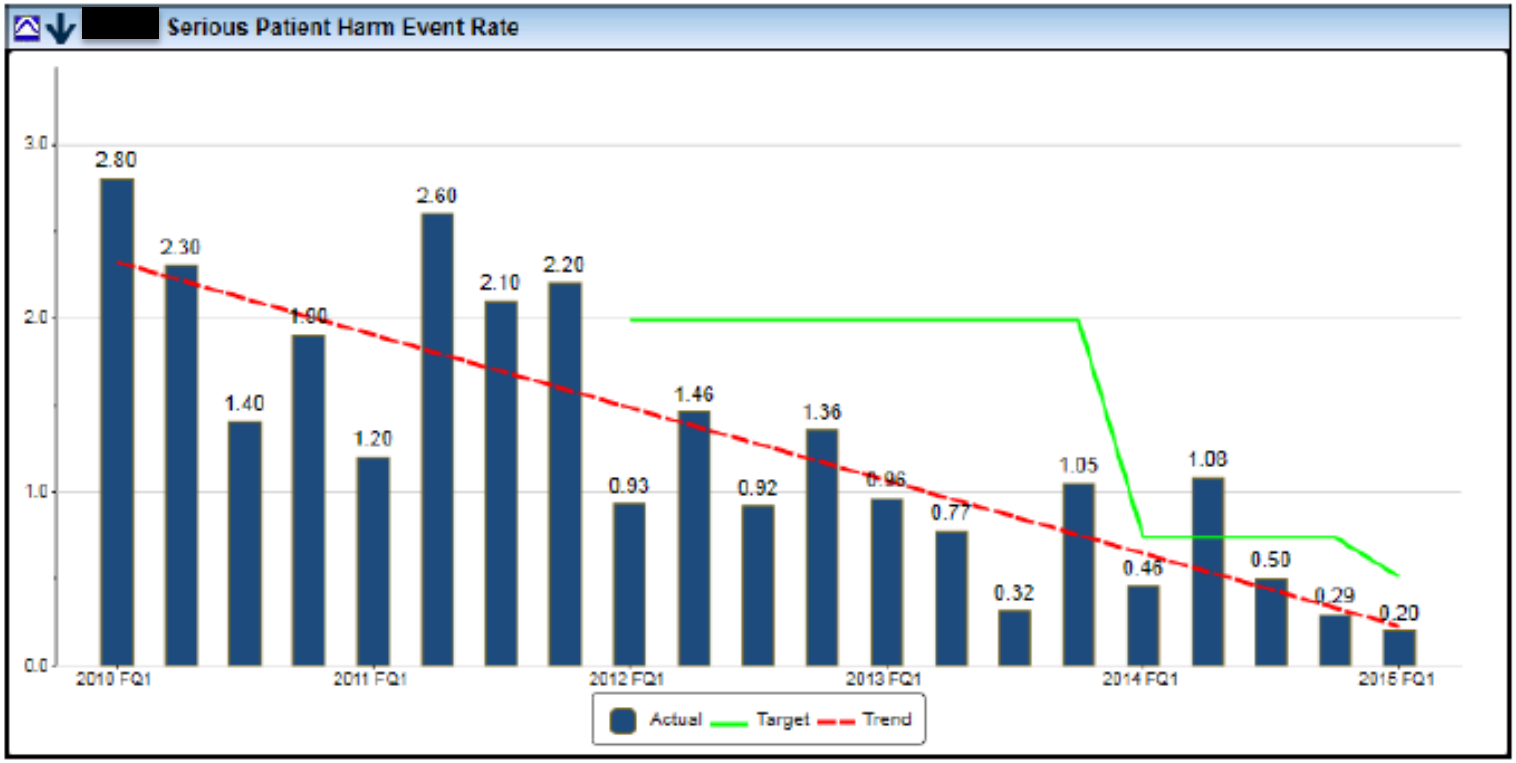
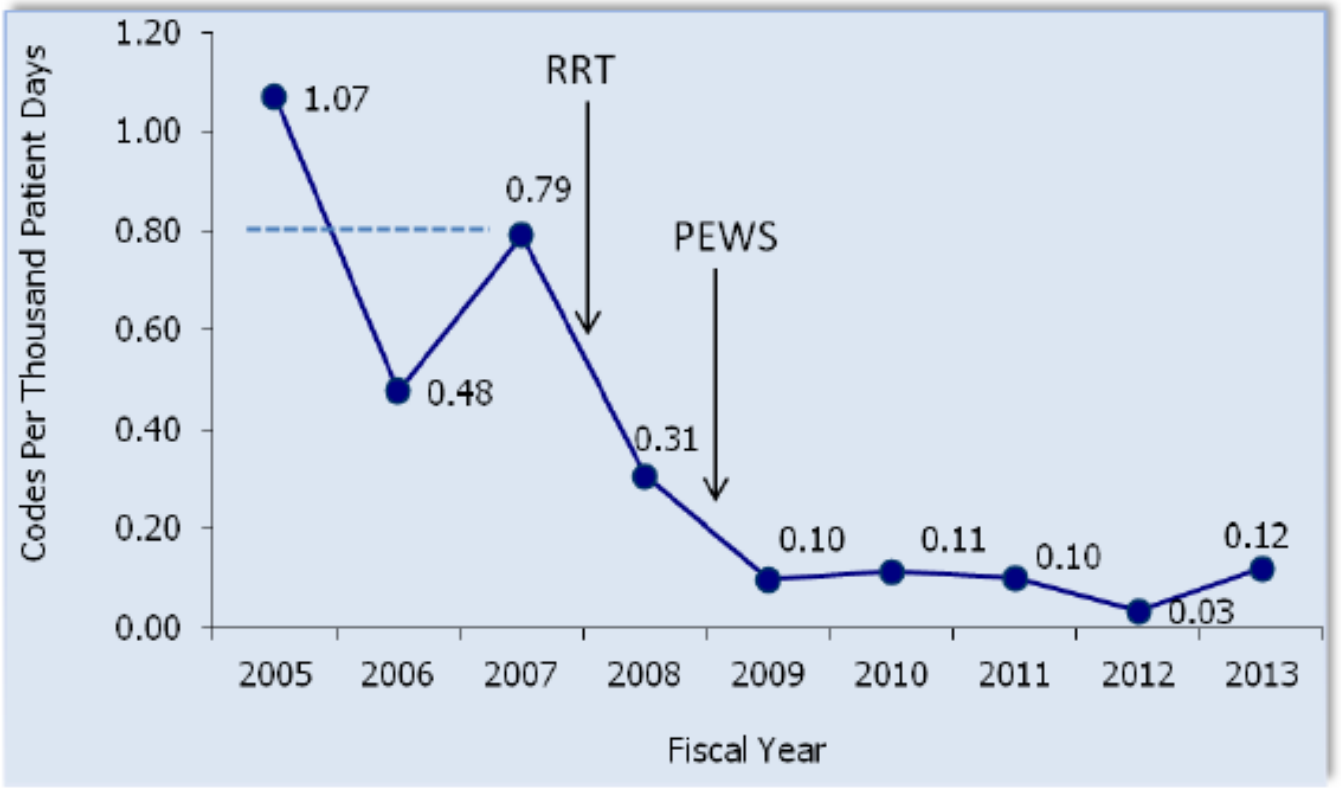
Serious Harm Rate, FY10–present



Events per 1000 patient days (lower is better)

Non-ICU Code Rate, FY05-present



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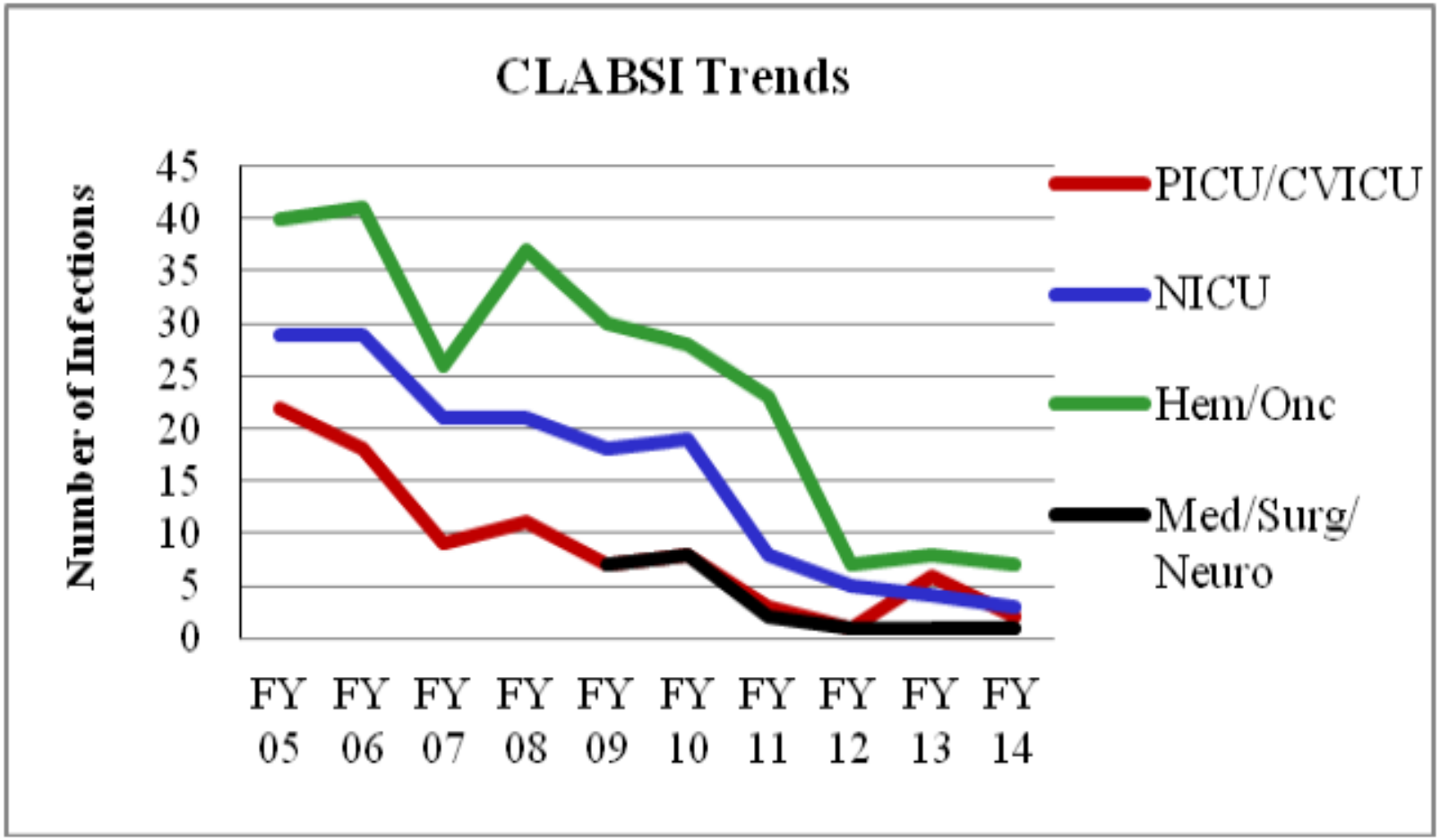
Central Line-associated bloodstream infection (CLABSI)

CLABSI Occurrence, FY05–present



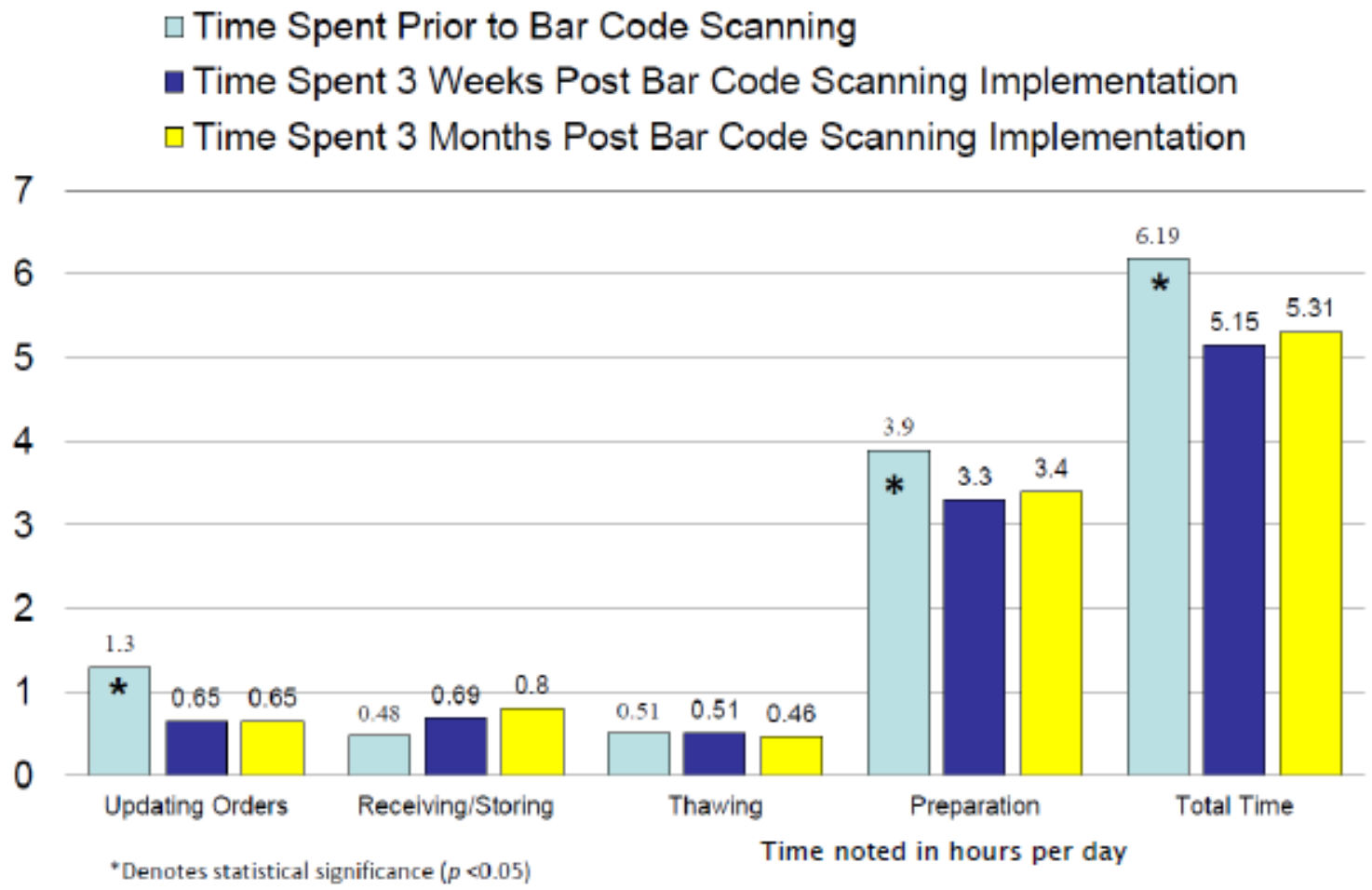
Human (breast) milk administration through CLMA process

Outcomes

	Wrong Milk	Labeling Errors	Storage Errors	Administered Exp Breastmilk
Prior to Process Change •May 2010–Dec 2012 •Bedside Prep •Manual Double Check	3	16	26	0
PI Phase I •Jan 9–Nov 11, 2013 •Centralized Prep •Manual Double Check	0	4	3	0
PI Phase II •Nov 12, 2013–Nov 12, 2014 •Centralized Prep •Bar Code Scanning	0 (110 near misses)	1	4	0 (193 near misses)

Published: Steele C, et al. *Breastfeeding Medicine* . 2014;9(9):426–429

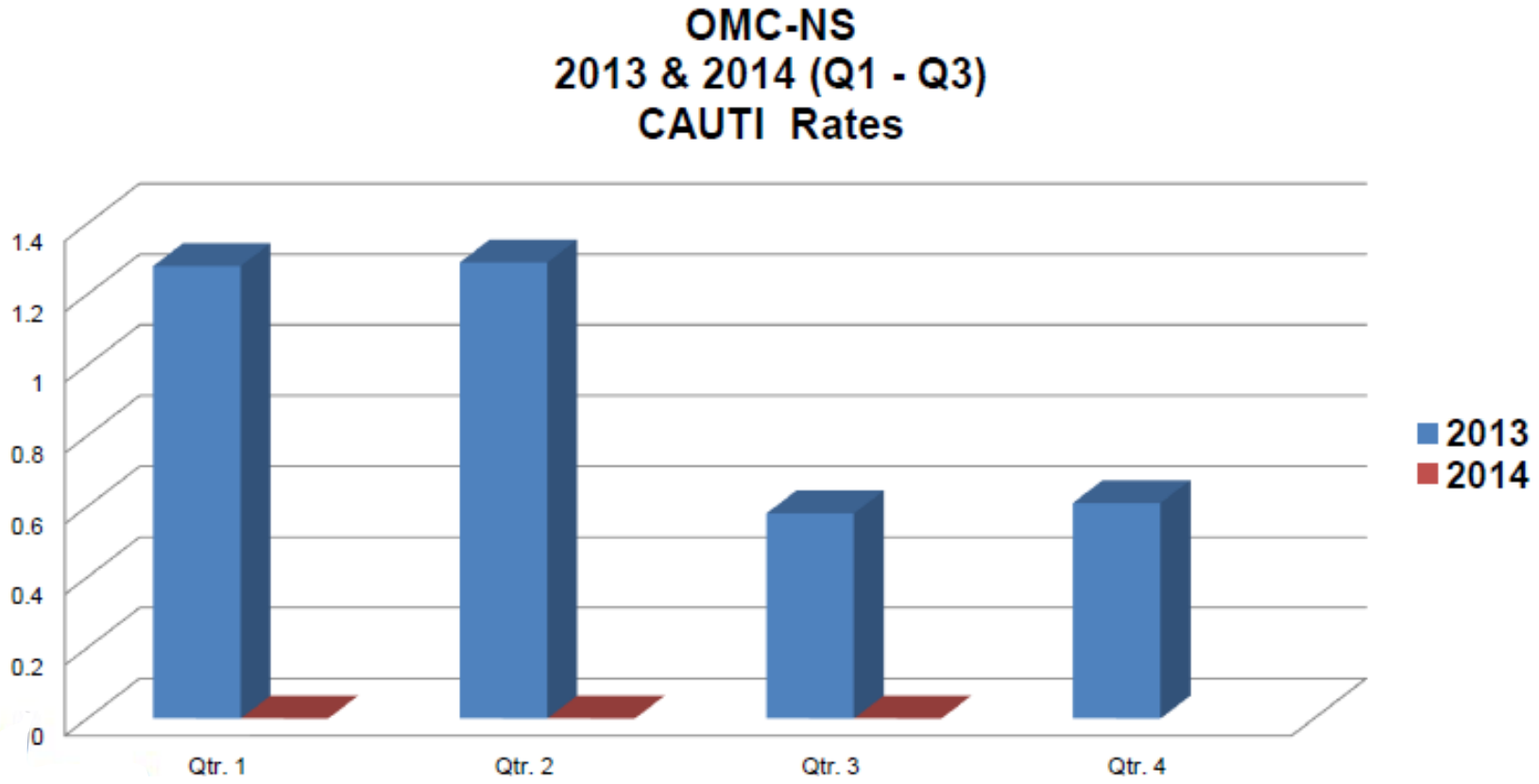
Breast Milk Bar Code Scanning Results in Time Savings and Staff Efficiency



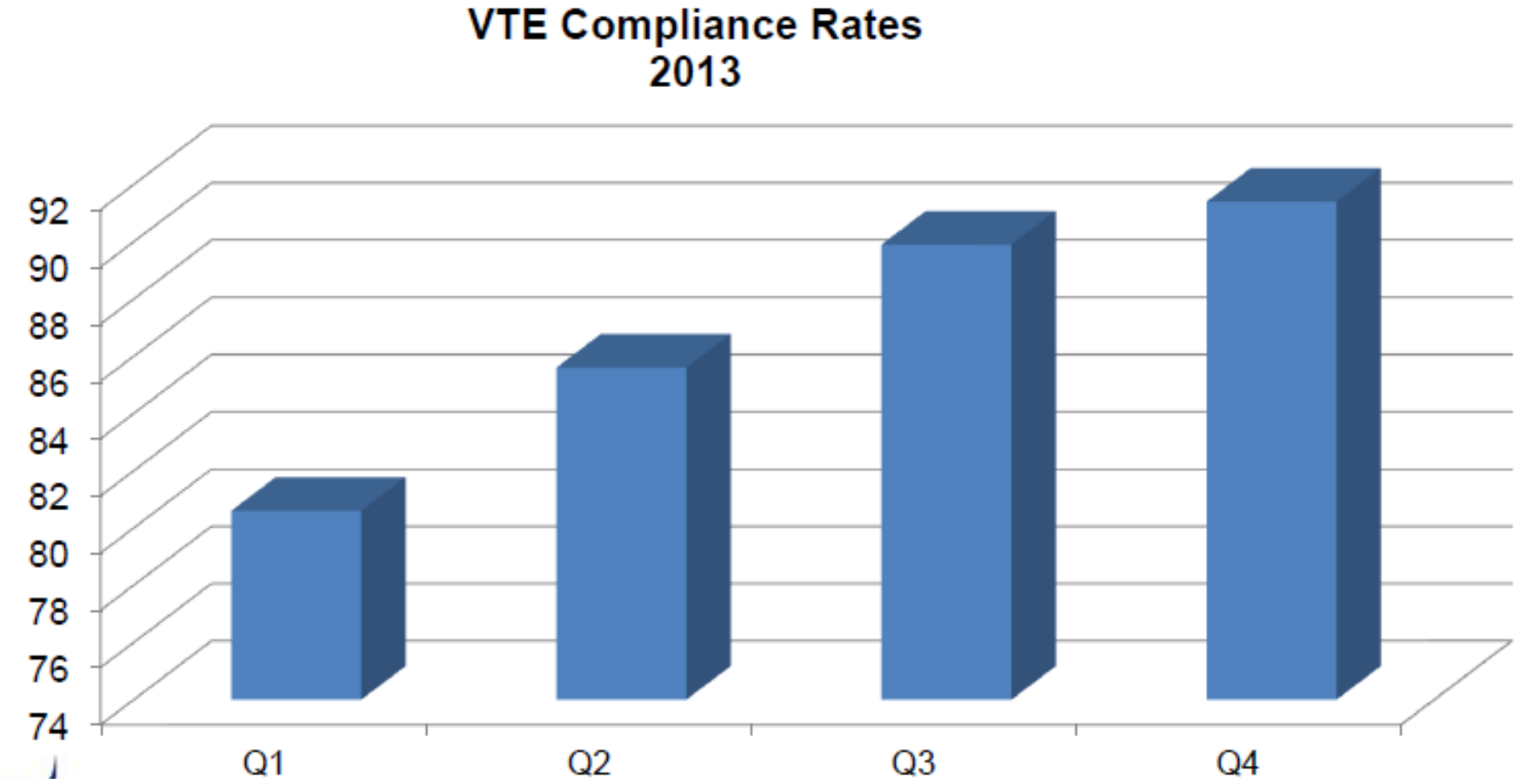
Published: Steele C, et al. *J Academy Nutr Diet.* Online publication July 2014

Reducing Catheter Associated Urinary Tract Infections

- OUTCOME: Decrease in CAUTI in second half of 2013, 0 CAUTI 2014 YTD

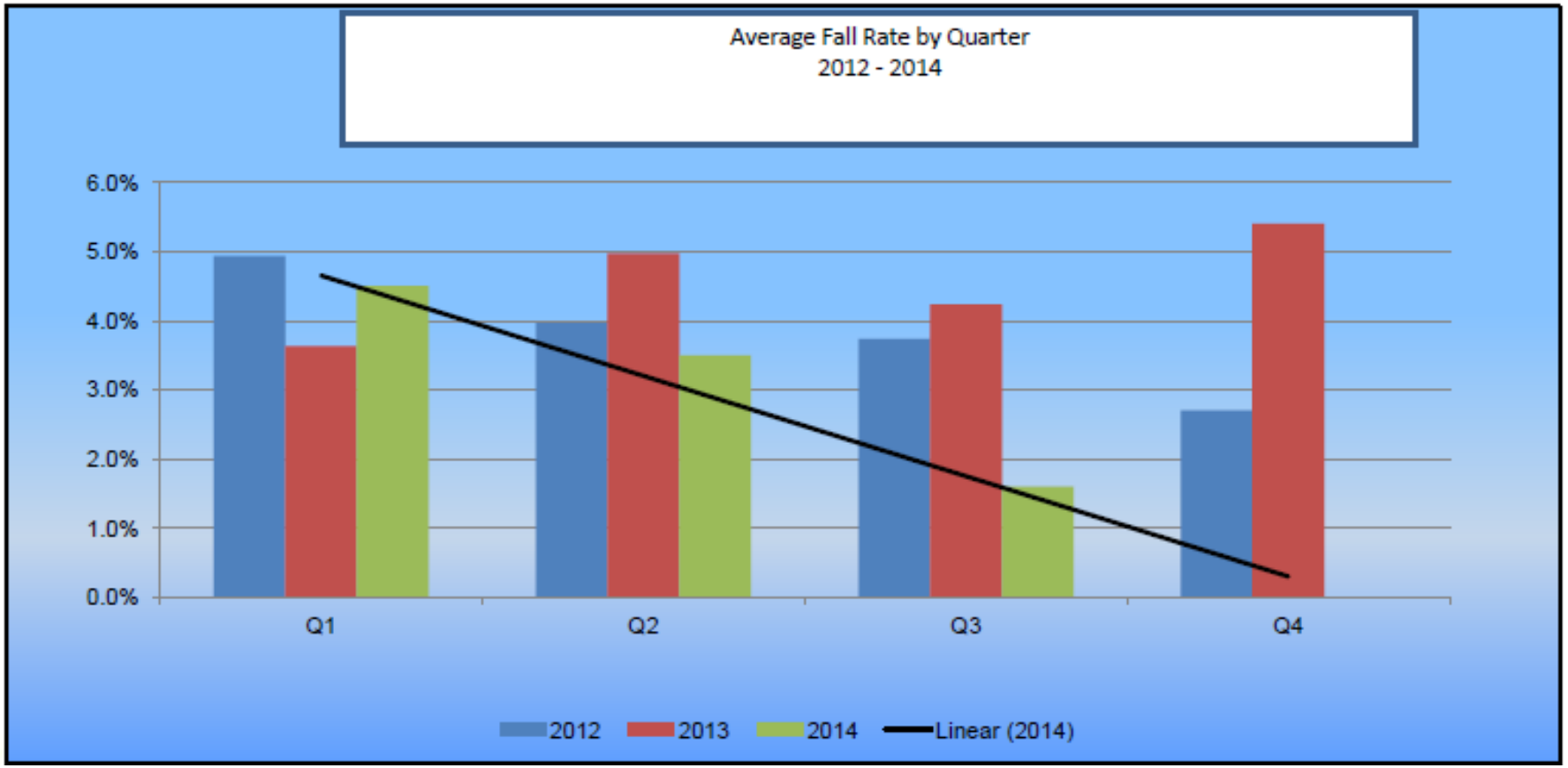


Venous Thromboembolism (VTE) Prophylaxis Compliance Rate



Falls Rate Improvement

- OUTCOME: decrease in falls rate 2014



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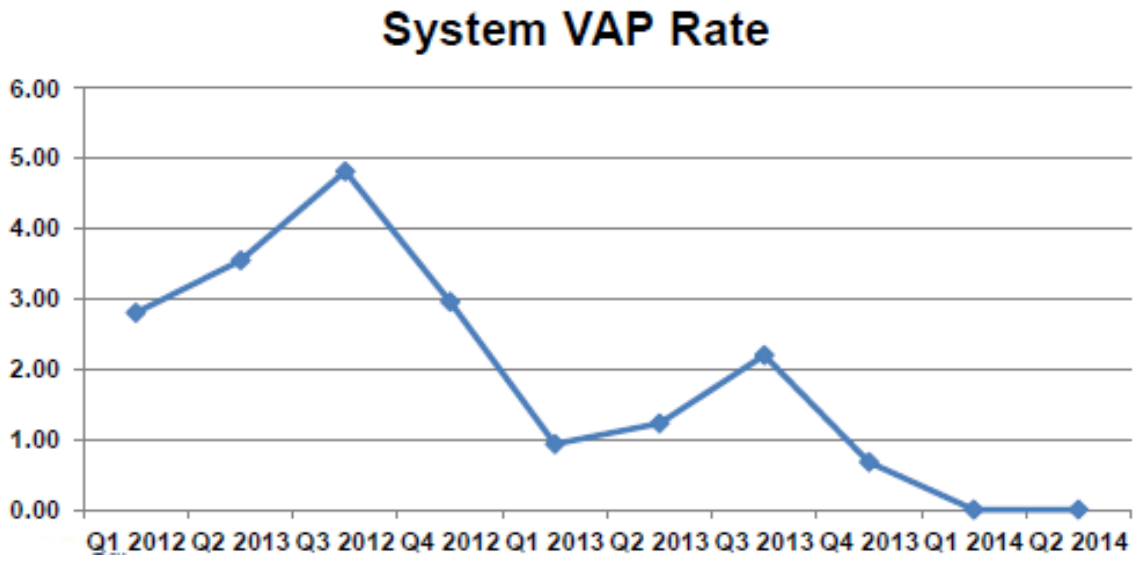
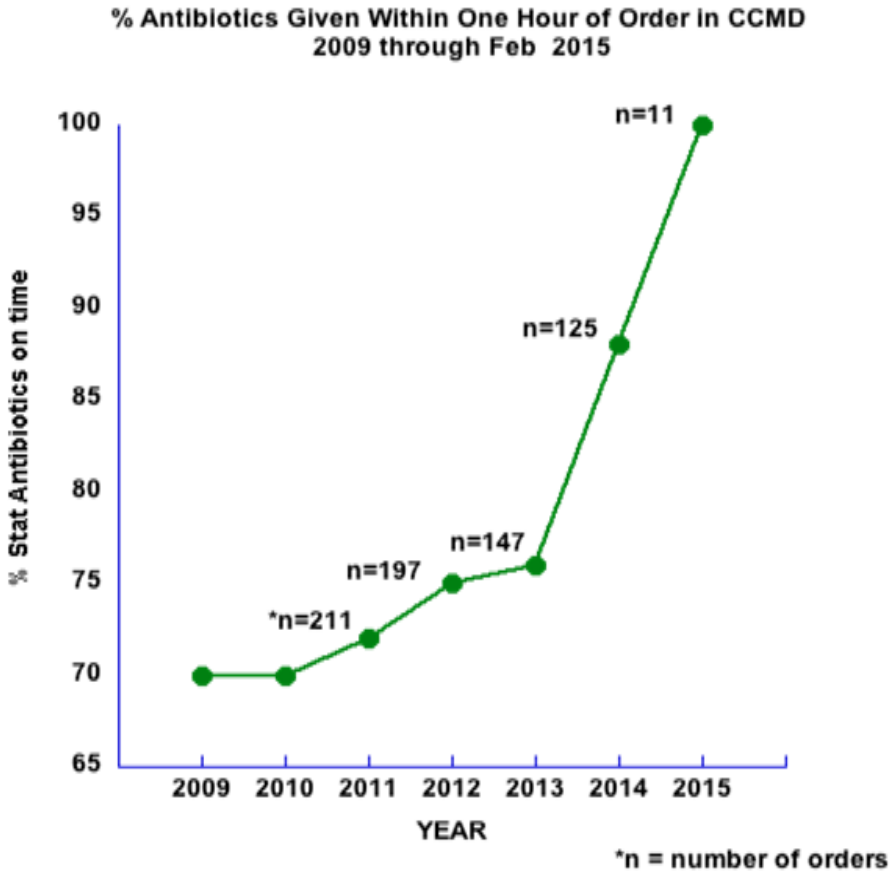
Critical Care Telemedicine Outcomes

- Eliminated Ventilator Acquired Pneumonia across the system
- Saved over 1500 lives across the system
- Avoided over 56,000 hospital days



% Antibiotics given within one hour



- Attention to detail
- Some changes in the pharmacy
- Reduction in the number of unnecessary STAT orders
- Great communication by the team

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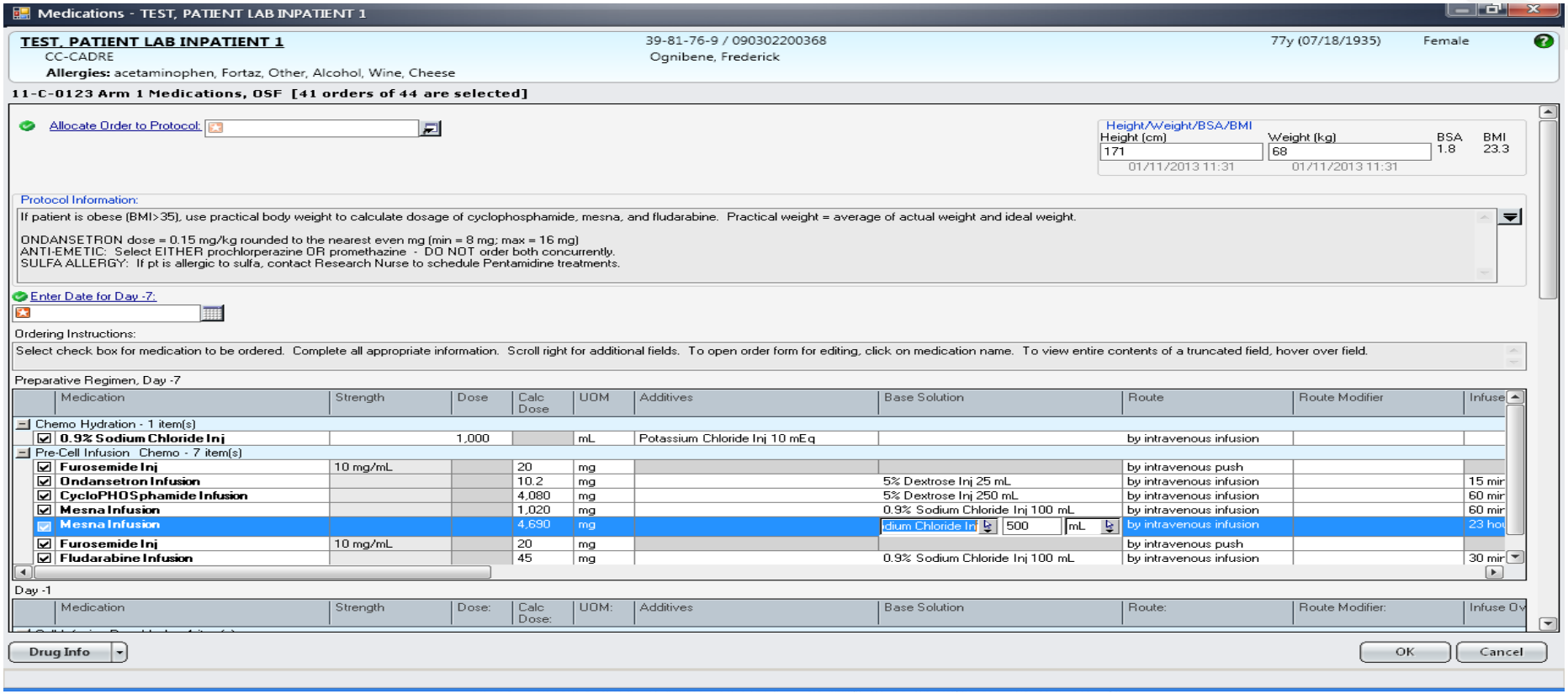
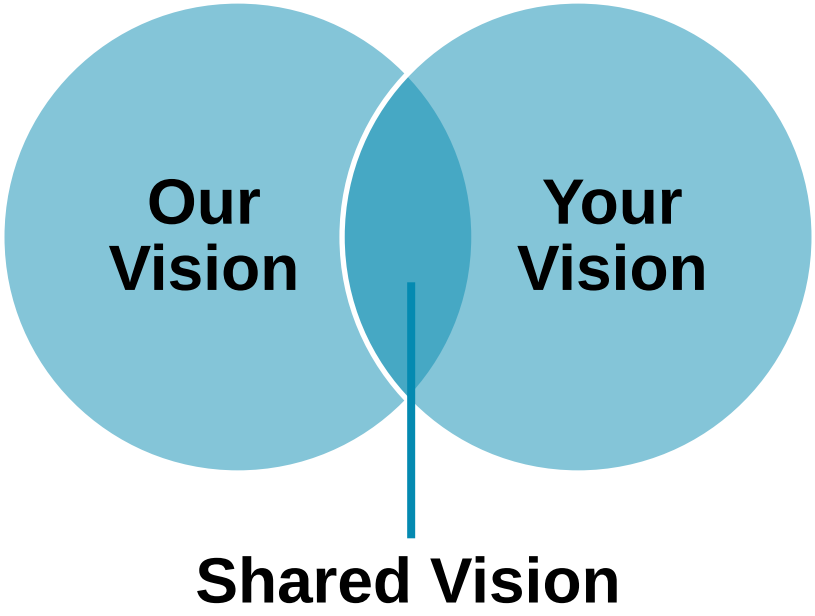
Order Sets Process Improvement

- Grid/Order Set Form Approach for Chemotherapy
- Reduced CPOE from 90 Minutes to 15 Minutes per Patient



Shared Vision



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Global Vice President, Healthcare Advisory Services Group

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