New Jersey Unit-based Collaborative Approach to Reducing Dialysis Related Bloodstream Infections

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Objectives

- Explain collaborative development and planning
- Discuss the model for improvement - CUSP, TeamSTEPPS and 4 E's
- Describe team successes and innovations
- Update on related quality initiatives

Roadmap to Collaboration

- NJHA successful On the CUSP STOP BSI collaborative efforts
- Fall 2012 - Sustainability funding made available
- NJ HAI Learning Action Network

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Collaborative Synergy !!

Quality Insights

Renal Network 3

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Key Questions??

- Who
- What
- Why
- How

Collaborative Teams
(the WHO)

- 180 New Jersey dialysis units
- Teams were chosen based on BSI rates
- “Invitation” letters sent to unit administration
- Units included hospital-based and free standing
- All units in N.J. were invited to participate voluntarily

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Collaborative Structure
(the WHAT)

- Learning Action Collaborative
- Faculty led and peer to peer learning
- 2 cohorts - 12 months each
- Interdisciplinary teams with leadership involvement
- In-person and webinar based sessions
- CUSP one-day boot camp
- Evidence-based content
- Toolkit

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Goals
(the why)

- **Primary Goal:** 25% reduction in bloodstream infections
- Other goals that were encouraged:
  - Increase the percentage of AV fistulas
  - Decrease the percentage of catheters
  - Improve unit safety culture

Model For Improvement
(the HOW)

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Comprehensive Unit-based Safety Program (CUSP)

- Created through a collaborative effort of the Agency for Healthcare Research and Quality and state and national-level innovators in patient safety
- Dovetails with, and supports, a range of quality and safety improvement models
- Encompasses a wide range of safety tools and approaches
- Based on the understanding that all culture is local, and that work to improve culture must be owned at the unit level
- Believes that harm is not an acceptable “cost of doing business”
- Can be applied by anyone, anywhere

CUSP Model

1. Engagement of front line staff
2. Identify and learn from defects
3. Leadership involvement
4. Implement teamwork & communication tools
5. Educate on the science of safety

CUSP for ESRD

Technical

Infection Prevention

1. Infection surveillance
2. Hand hygiene
3. Catheter/vascular access care
4. Patient education/engagement
5. Staff education and competency
6. Catheter reduction

Adaptive/Cultural

CUSP

1. Educate on the Science of Safety
2. Identify Defects (Staff Safety Assessment)
3. Senior Executive Partnership
4. Learn from Defects
5. Implement Teamwork & Communications Tools

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Science of Safety:

Three Principles of Safe Design

- Standardize
- Create independent checks
- Learn from defects

CDC Core Interventions

- Hand hygiene
- Catheter/vascular access care
- Staff education and competency
- Patient education/engagement
- Catheter reduction
- Chlorhexidine for skin antisepsis
- Catheter hub disinfection
- Antimicrobial ointment

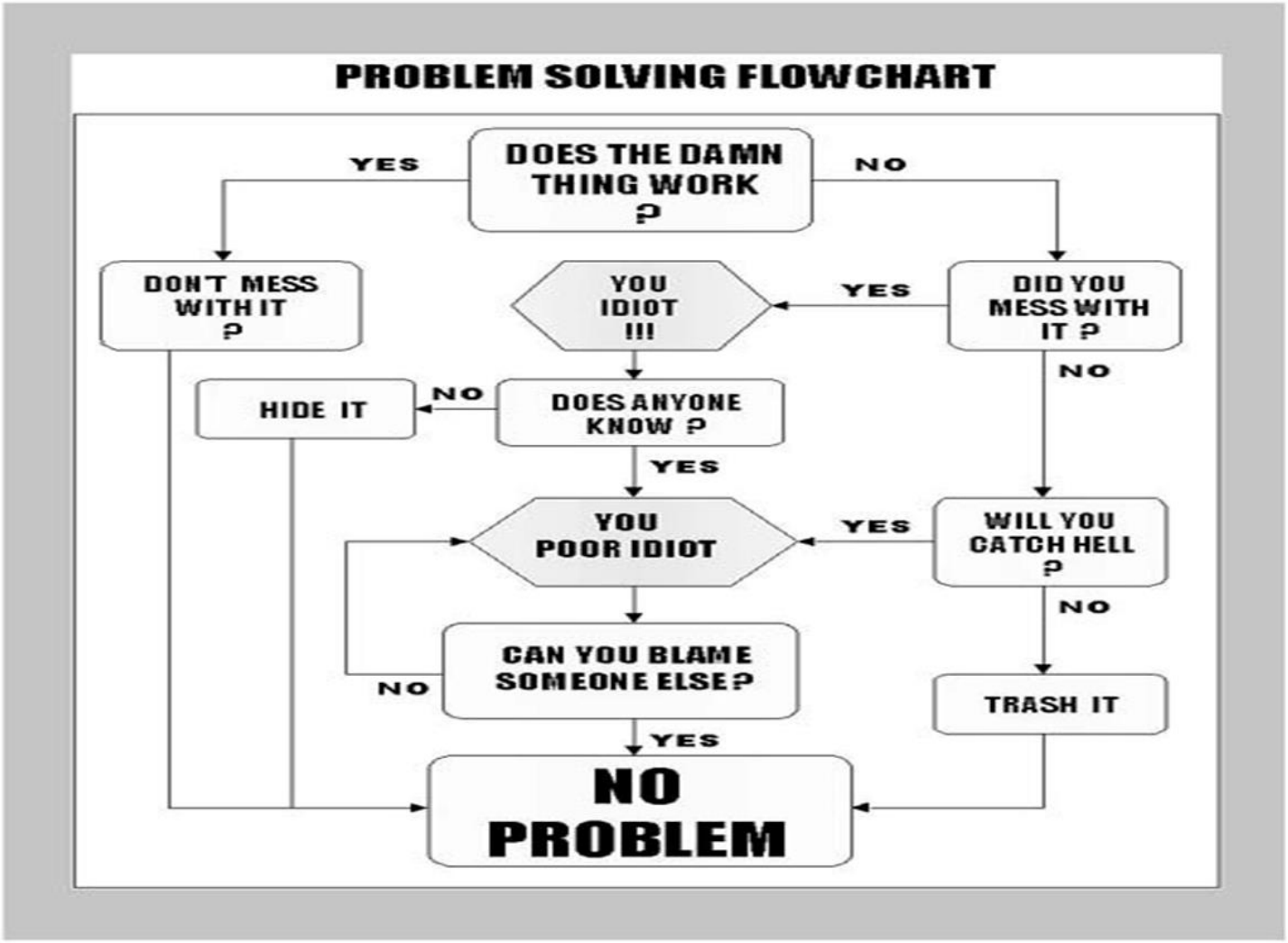
Technical Expertise

- CDC Dialysis Infection Prevention Collaborative
- Physician Champion - Dr. Kapoian
- Network 3 nurses
- NJ Infection Preventionists
- AtlantiCare
- Fletcher Allen
- Altru Health System
- Safe Injection Practice - NJ DOH

Safe Design Examples

- Chlorhexidine use
- Enhanced communication tools- huddles, rounds
- Environmental disinfection- changes in patient shift scheduling
- Audits- hand hygiene & access care
- Staff competencies
- Patient self care surveys

Learning from Defects



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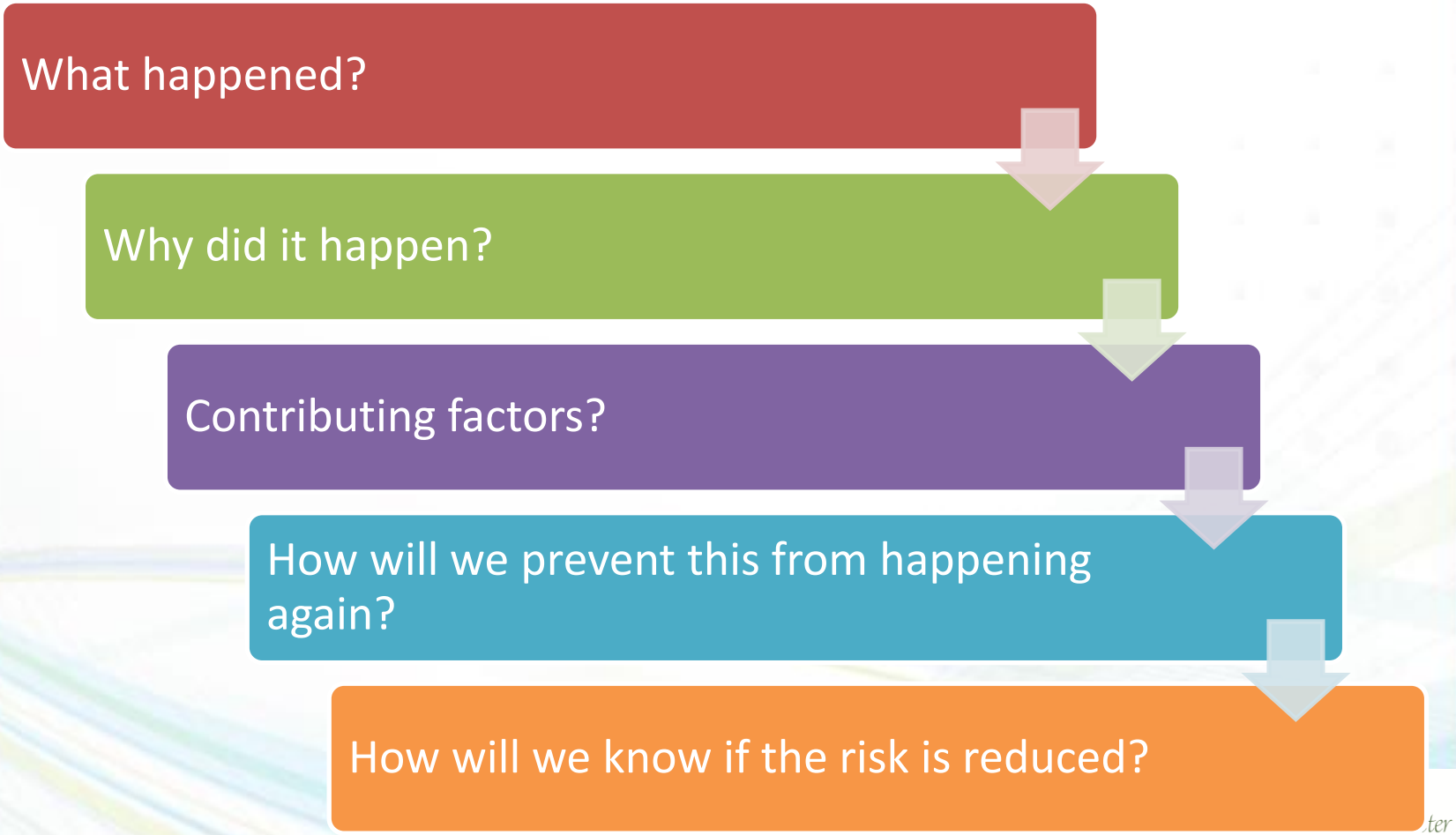
Learning from Defects Tool

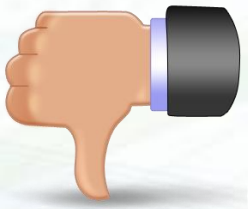


Staff Safety Assessment

2 Questions:

- How will the next patient be harmed?
- What can we do to prevent it?

Adaptive



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Safety Culture

- Enduring, shared, LEARNED beliefs and behaviors that reflect an organization's *willingness to learn from errors*
- Four beliefs present in a safe, informed culture
  - Our processes are designed to prevent failure
  - We are committed to detect and learn from error
  - We have a just culture that disciplines based on risk taking
  - People who work in teams make fewer errors

Hospital Survey on Patient Safety (HSOPS)

- Developed by the Agency for Healthcare Research and Quality (AHRQ), as a tool for hospitals to assess their patient safety culture, track changes in patient safety over time, and to evaluate the impact of patient safety interventions.
- The survey, which measures hospital staff opinions about patient safety issues, medical errors, and event reporting, includes 42 items that measure 12 dimensions of patient safety culture.
- Surveys available for hospital, medical office, nursing home, pharmacy.

HSOPS:

42 Items Assess 12 Dimensions of Patient Safety Culture

1. Communication openness
2. Feedback & communication about error
3. Frequency of event reporting
4. Handoffs & transitions
5. Management support for patient safety
6. Nonpunitive response to error
7. Organizational learning--continuous improvement
8. Overall perceptions of patient safety
9. Staffing
10. Supv/mgr expectations & actions promoting patient safety
11. Teamwork across units
12. Teamwork within units

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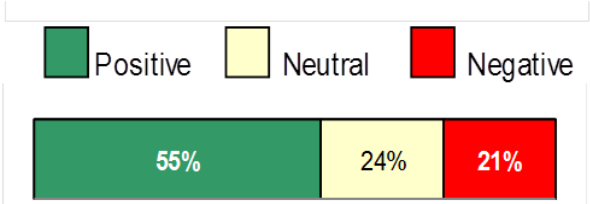
Key Items from N.J. Units

- **High scoring:**
  - Management support for patient safety
  - Supv/mgr expectations & actions promoting patient safety
  - Teamwork within units
- **Low scoring:**
  - Nonpunitive response to error
  - Handoffs & transitions
  - Staffing

Sample Survey Review

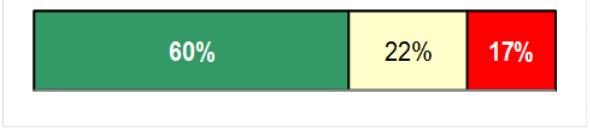
12. Nonpunitive Response to Error

1. Staff feel like their mistakes are held against them. (A8R)



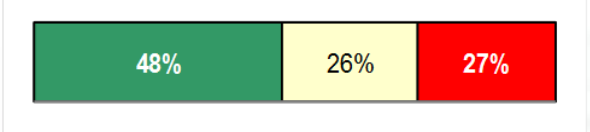
(Missing = 4%)

2. When an event is reported, it feels like the person is being written up, not the problem. (A12R)



(Missing = 2%)

3. Staff worry that mistakes they make are kept in their personnel file. (A16R)



(Missing = 3%)

Note: 1) "R" = a negatively worded item; 2) Chart totals exclude missing & may not sum to 100% due to rounding; 3) Missing = % of respondents with missing data; 4) Item data not displayed for fewer than 3 respondents; 5) % not displayed for 5% or less.

Integrate Methods to Enhance Teamwork and Communication

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Most Frequently Identified Root Causes of Sentinel Events Reviewed by The Joint Commission by Year

The majority of events have multiple root causes
(Please refer to subcategories listed on slides 5-7)

2011 (N=1243)		2012 (N=901)		2013 (N=887)	
Human Factors	899	Human Factors	614	Human Factors	635
Leadership	815	Leadership	557	Communication	563
Communication	760	Communication	532	Leadership	547
Assessment	689	Assessment	482	Assessment	505
Physical Environment	309	Information Management	203	Information Management	155
Information Management	233	Physical Environment	150	Physical Environment	138
Operative Care	207	Continuum of Care	95	Care Planning	103
Care Planning	144	Operative Care	93	Continuum of Care	97
Continuum of Care	137	Medication Use	91	Medication Use	77
Medication Use	97	Care Planning	81	Operative Care	76

Source: Joint Commission, 2014

Why Does Teamwork Matter in Healthcare?

- Reduce clinical errors
- Improve patient outcomes for patients
- Better continuity of care, access to care and patient satisfaction
- Increase staff satisfaction
- Increase efficiency

TeamSTEPPS

Key Principles

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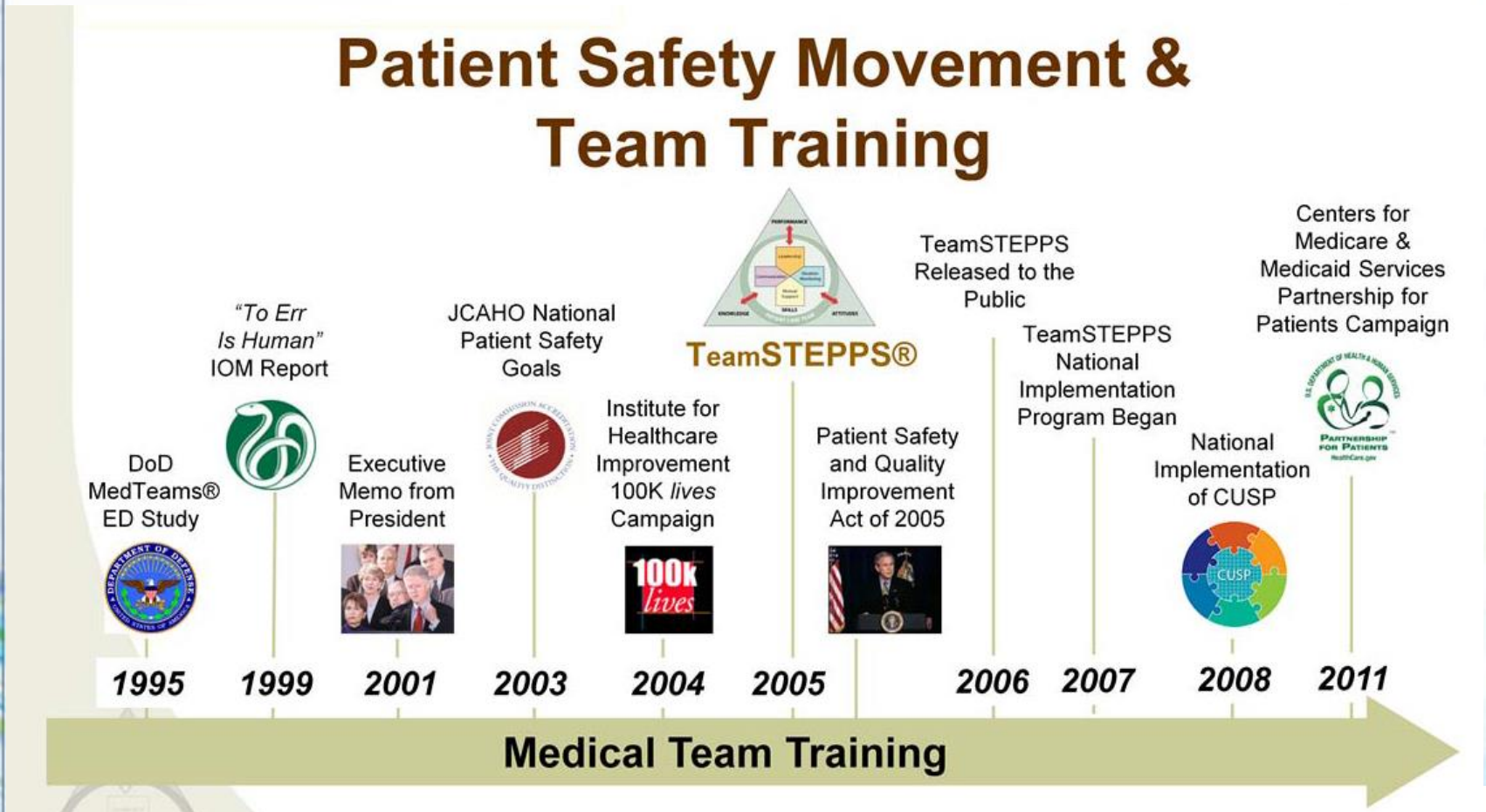
Patient Safety Movement



"Begin with the End Goal in Mind"

Choose your tool

TOOLS and STRATEGIES

Brief
Huddle
Debrief
STEP
Cross Monitoring
Feedback
Advocacy and Assertion
Two-Challenge Rule
CUS
DESC Script
Collaboration
SBAR
Call-Out
Check-Back
Handoff

Design your intervention

TeamSTEPPS and CUSP for ESRD

BSI

- Reduce BSI rates by 25%

CUSP

- Improve safety culture as evidenced by improved teamwork and communication by employing CUSP methodology

TeamSTEPPS

- Brief, Huddle, 2 Challenge Rule

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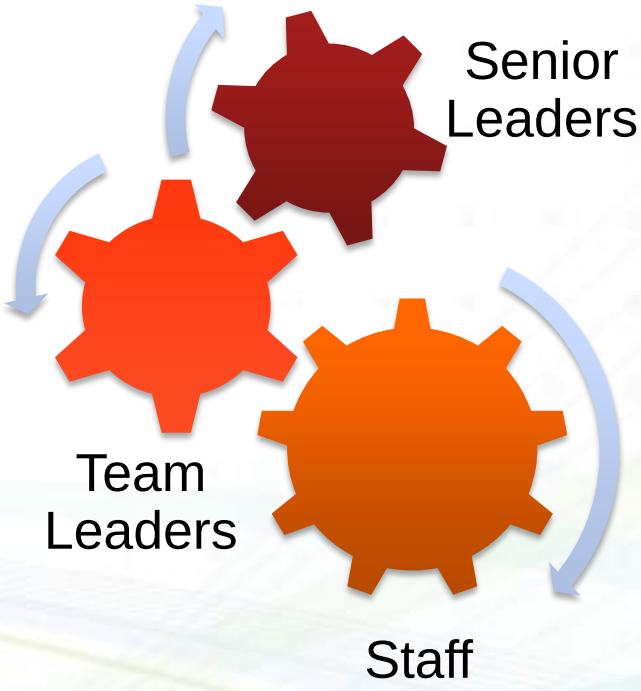
Challenge:

To Engage Staff and Patients

Photo shared by Renal Center of Brick

Engage Team Members Using the **4 E**'s

Engage (adaptive)	How does this make the world a better place?
Educate (technical)	What do we need to know?
Execute (adaptive)	What do we need to do? What can we do with our resources and culture?
Evaluate (technical)	How do we know we improved safety?



Engagement Strategies

- Aim Statements - set goals
- Owned their data
- Identified knowledge gaps - staff and patients
- Staff were involved in decision making and implementing change
- Patients were asked to take responsibility for actions and be part of the solution

Results

- Goal was 25% reduction in infections
- Over 2 cohorts of teams
  - Achieved 25% - 48% reduction in infection rates!

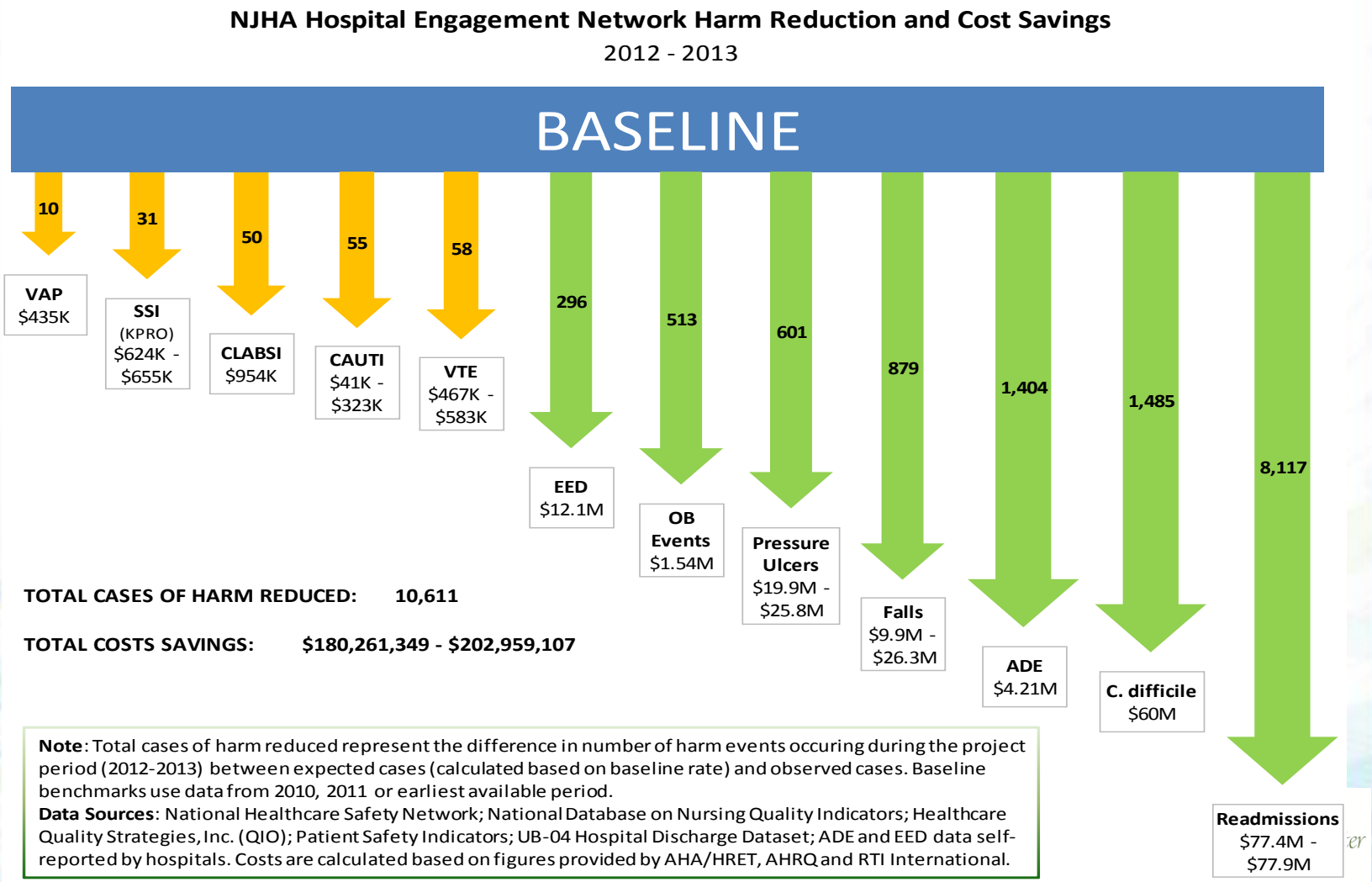
Celebrate Success!

Photo shared by Renal Center of Brick

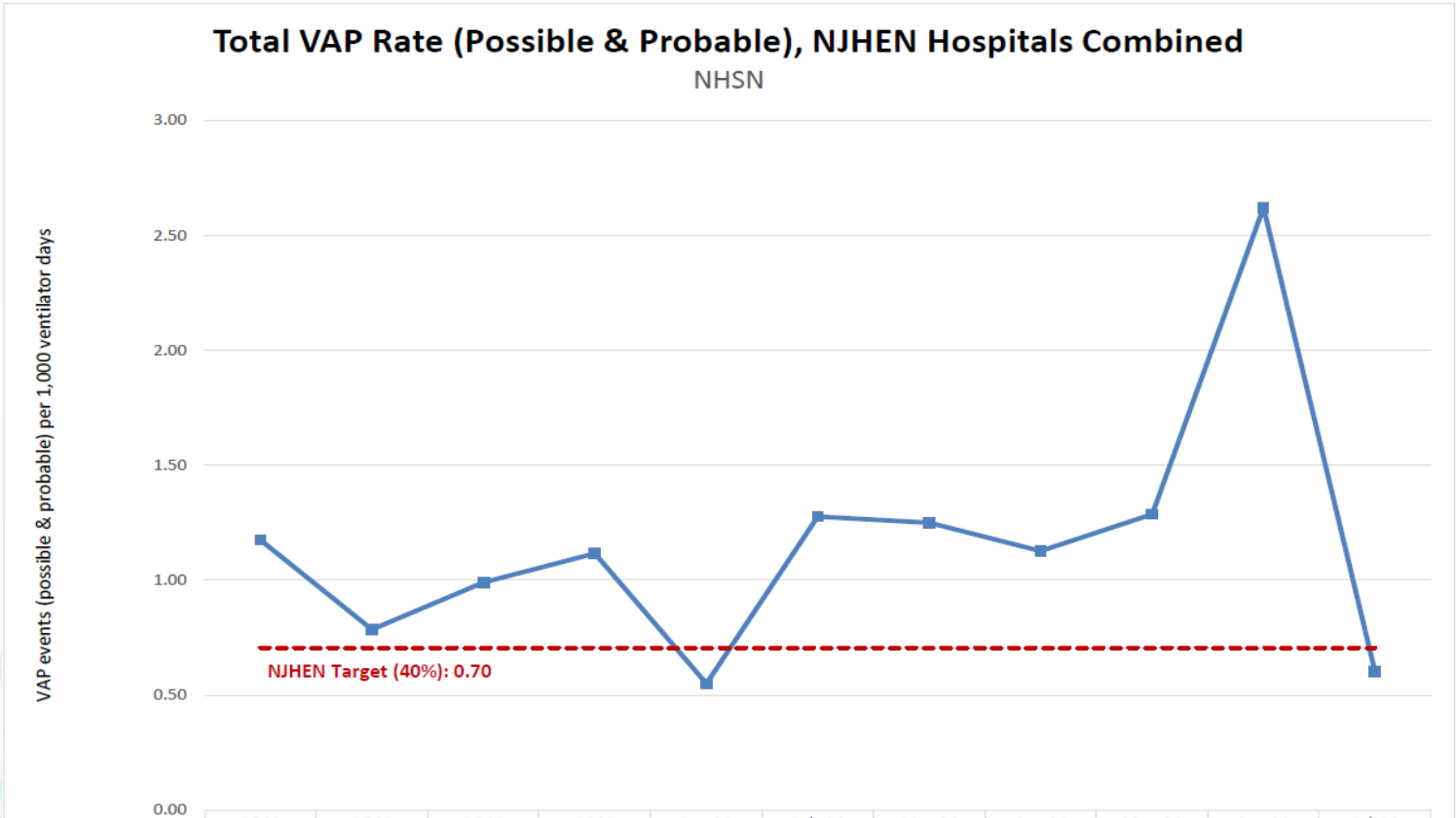
End Stage Renal Disease Related Issues

- VAP/VAE
- CLABSI
- VTE
- Pressure Ulcers
- C–Diff
- Falls
- ADES
- Readmissions / Transitions of Care
- Patient & Family Engagement (PFE)
- Leadership

End Stage Renal Disease Related Issues

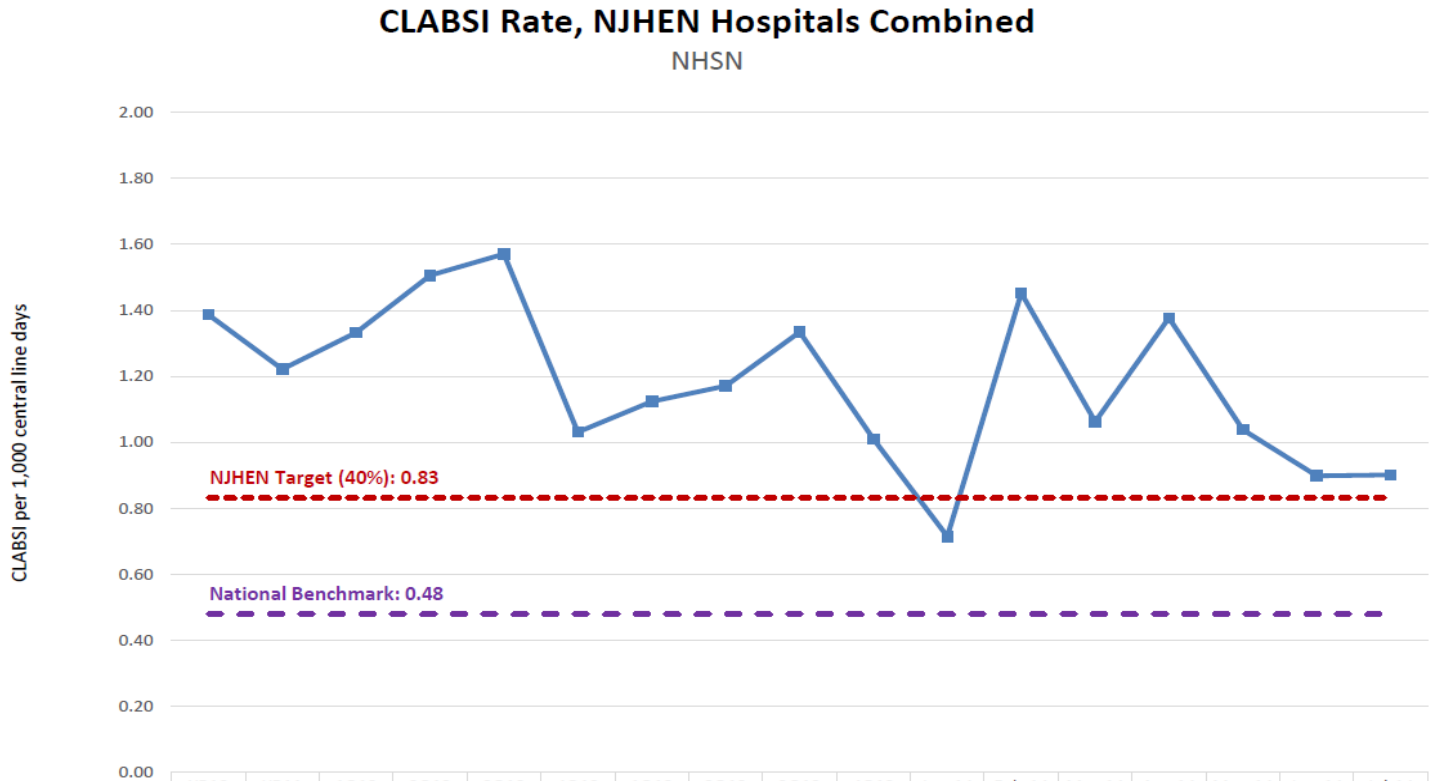


VAP/VAE



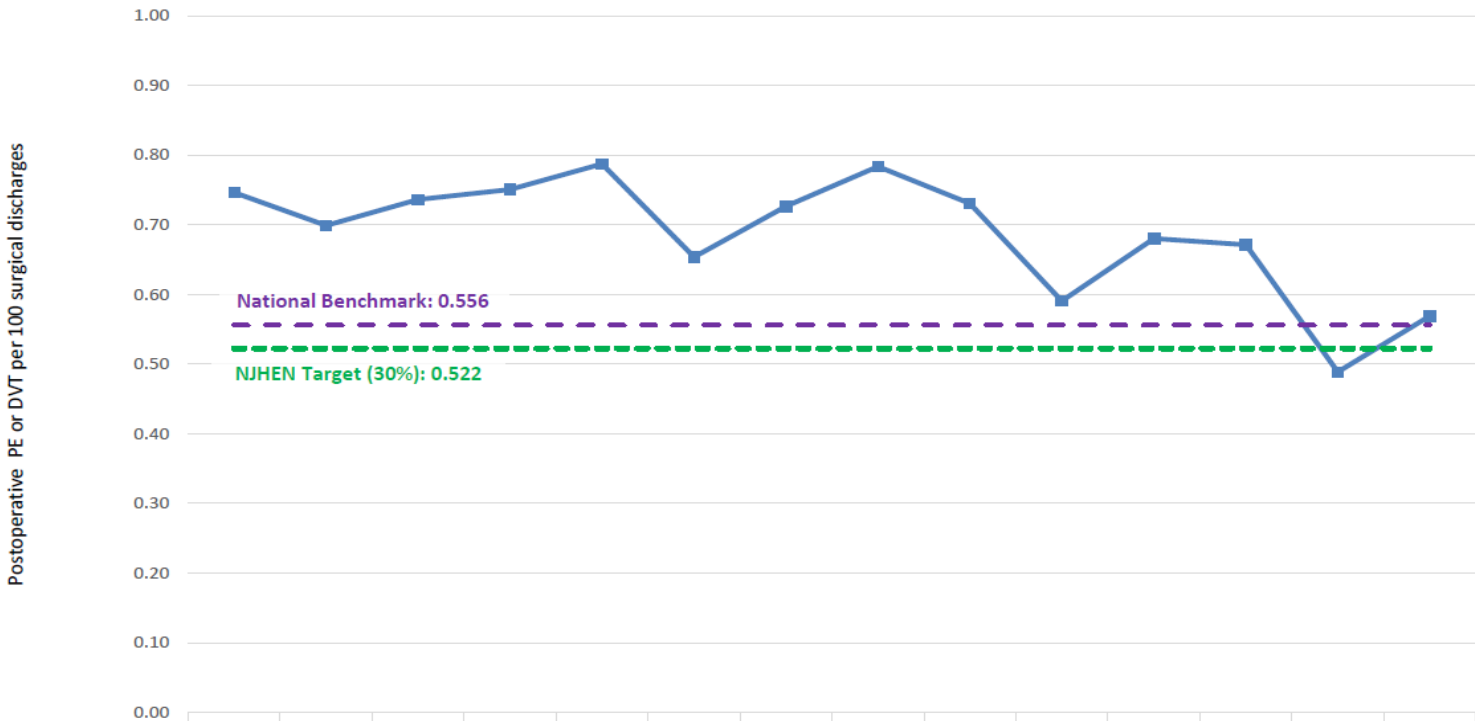
	1Q13 (n=32)	2Q13 (n=31)	3Q13 (n=35)	4Q13 (n=35)	Jan-14 (n=37)	Feb-14 (n=37)	Mar-14 (n=37)	Apr-14 (n=35)	May-14 (n=33)	Jun-14 (n=30)	Jul-14 (n=19)
Rate	1.17	0.79	0.99	1.12	0.55	1.28	1.25	1.13	1.29	2.62	0.60
Numerator	19	12	15	20	4	8	9	8	8	14	2
Denominator	16,183	15,286	15,164	17,931	7,279	6,268	7,206	7,107	6,217	5,343	3,322
NJHEN Target (40%)	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70

CLABSI



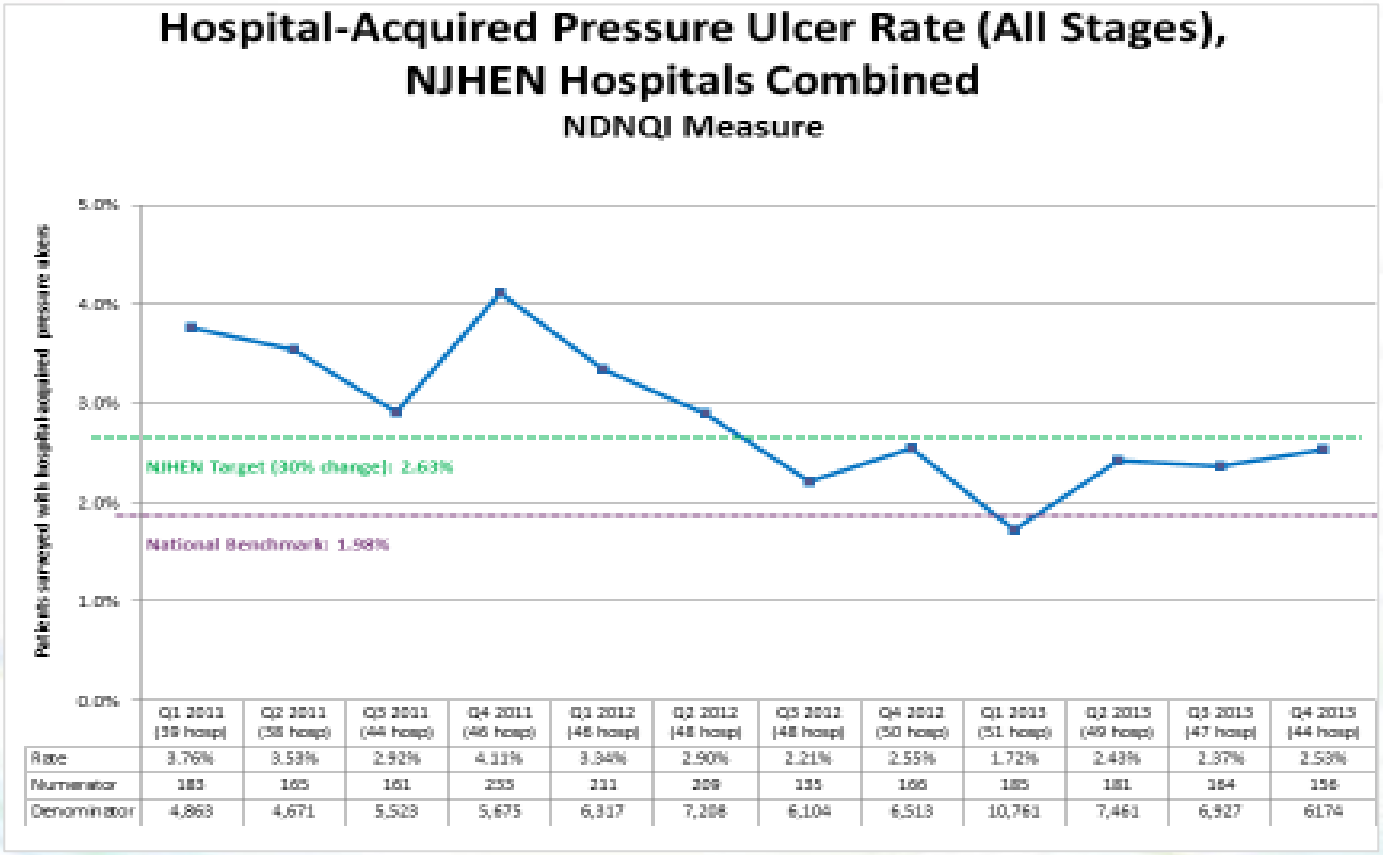
	YR10 (n=61)	YR11 (n=60)	1Q12 (n=61)	2Q12 (n=61)	3Q12 (n=60)	4Q12 (n=61)	1Q13 (n=61)	2Q13 (n=61)	3Q13 (n=61)	4Q13 (n=61)	Jan-14 (n=59)	Feb-14 (n=61)	Mar-14 (n=58)	Apr-14 (n=56)	May-14 (n=52)	Jun-14 (n=49)	Jul-14 (n=31)
Rate	1.39	1.22	1.33	1.51	1.57	1.03	1.12	1.17	1.33	1.01	0.72	1.45	1.06	1.38	1.04	0.90	0.90
Numerator	257	218	65	67	67	48	57	55	58	46	12	22	17	20	15	11	6
Denominator	185,366	178,438	48,765	44,506	42,667	46,546	50,740	46,968	43,470	45,540	16,779	15,153	16,002	14,529	14,449	12,244	6,655
NJHEN Target (40%)	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
National Benchmark	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48

VTE



	1Q2011 (61 hosp)	2Q2011 (61 hosp)	3Q2011 (61 hosp)	4Q2011 (61 hosp)	1Q2012 (60 hosp)	2Q2012 (60 hosp)	3Q2012 (60 hosp)	4Q2012 (60 hosp)	1Q2013 (60 hosp)	2Q2013 (60 hosp)	3Q2013 (60 hosp)	4Q2013 (59 hosp)	1Q2014 (61 hosp)	2Q2014 (61 hosp)
Rate	0.75	0.70	0.74	0.75	0.79	0.65	0.73	0.78	0.73	0.59	0.68	0.67	0.49	0.57
Numerator	199	185	195	193	208	168	182	192	178	147	166	155	115	124
Denominator	26,667	26,469	26,484	25,707	26,418	25,701	25,048	24,496	24,370	24,891	24,400	23,096	23,534	21,794
NJHEN Target (30%)	0.522	0.522	0.522	0.522	0.522	0.522	0.522	0.522	0.522	0.522	0.522	0.522	0.522	0.522
National Benchmark	0.556	0.556	0.556	0.556	0.556	0.556	0.556	0.556	0.556	0.556	0.556	0.556	0.556	0.556

Pressure Ulcers



	Q1 2011 (59 hosp)	Q2 2011 (58 hosp)	Q3 2011 (44 hosp)	Q4 2011 (46 hosp)	Q1 2012 (48 hosp)	Q2 2012 (48 hosp)	Q3 2012 (48 hosp)	Q4 2012 (50 hosp)	Q1 2013 (51 hosp)	Q2 2013 (49 hosp)	Q3 2013 (47 hosp)	Q4 2013 (44 hosp)
Rate	3.76%	3.53%	2.92%	4.11%	3.34%	2.90%	2.21%	2.55%	1.72%	2.43%	2.37%	2.53%
Numerator	183	165	161	255	211	209	135	166	185	181	164	156
Denominator	4,868	4,671	5,523	5,675	6,317	7,208	6,104	6,513	10,761	7,461	6,927	6174

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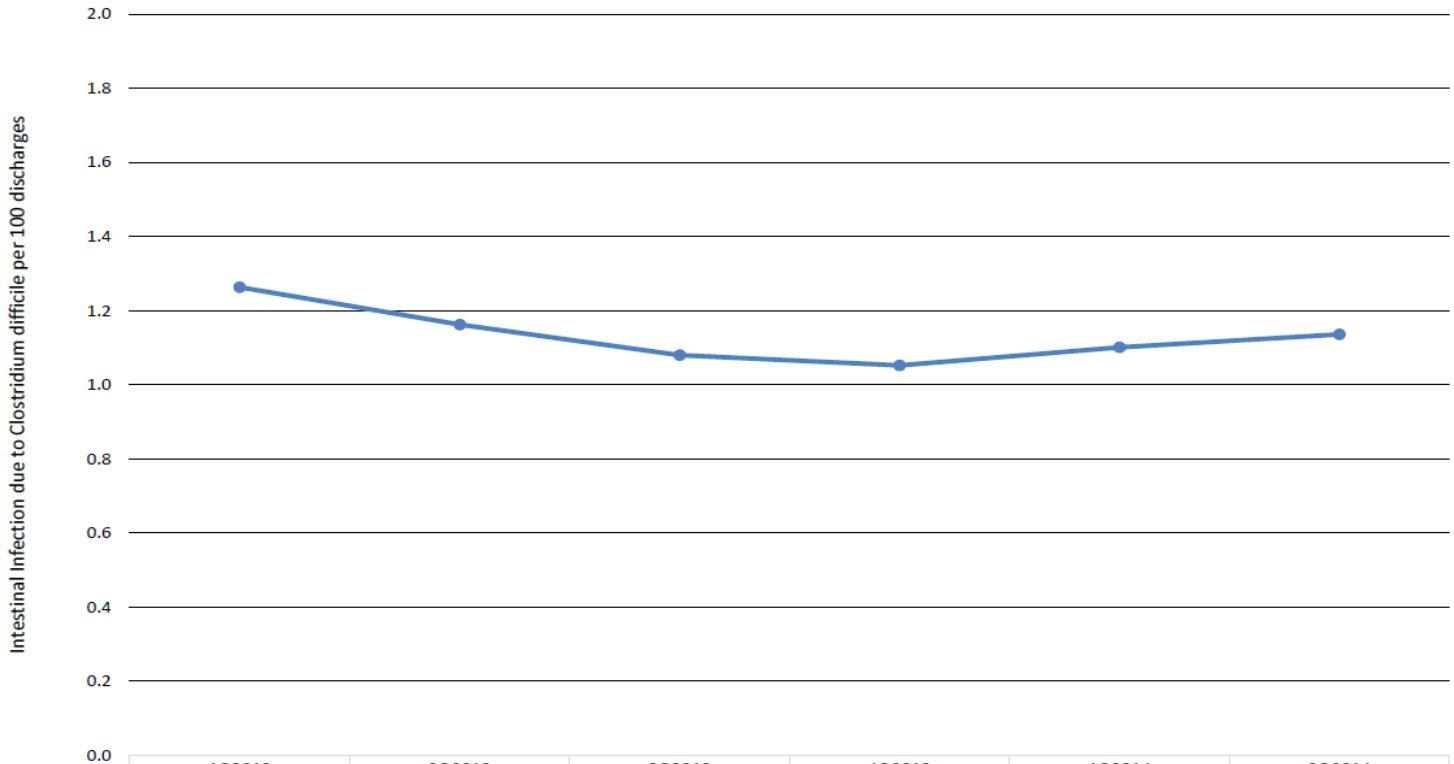
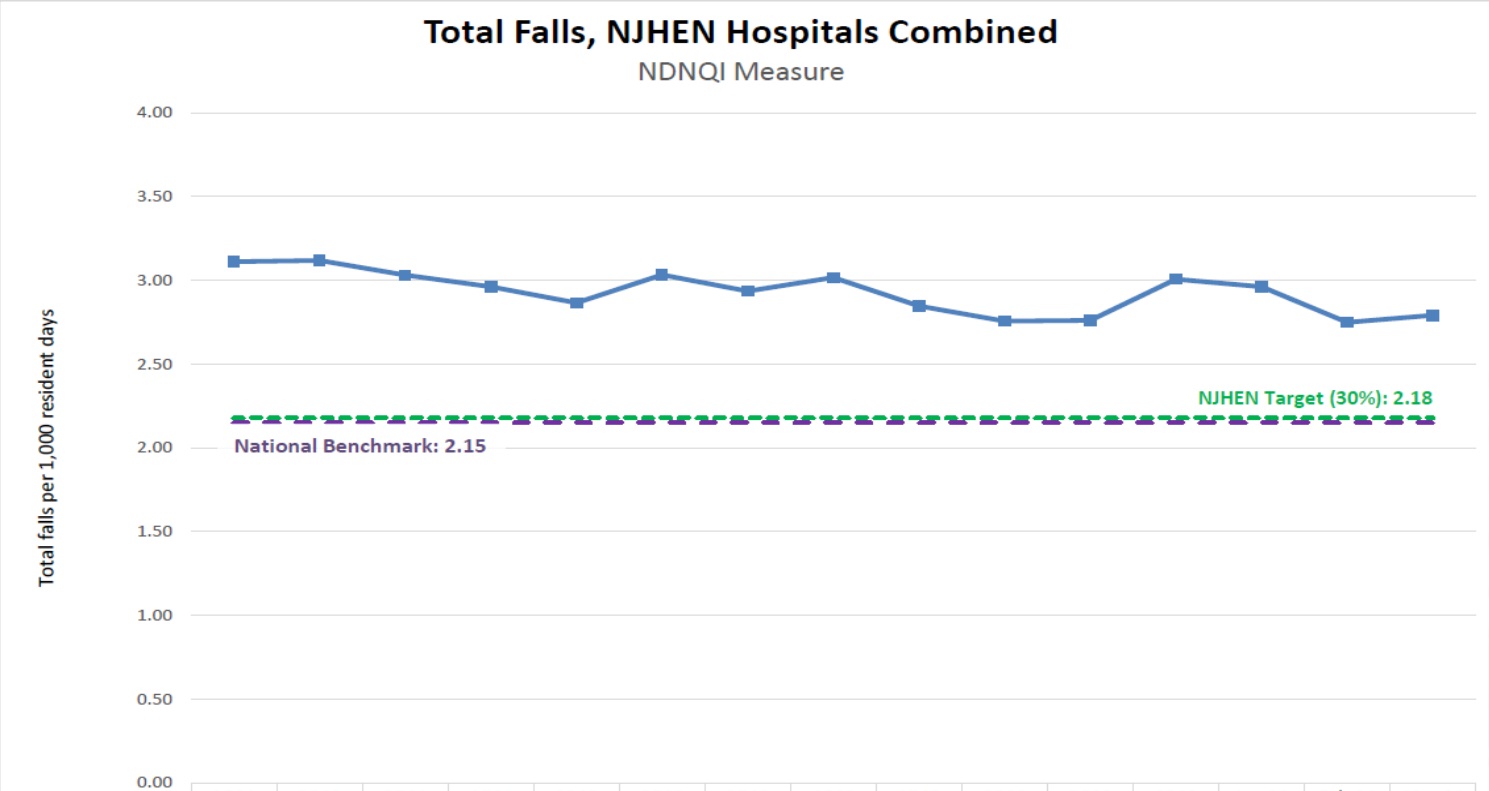
C-Diff



	1Q2013 (61 hosp)	2Q2013 (61 hosp)	3Q2013 (61 hosp)	4Q2013 (61 hosp)	1Q2014 (61 hosp)	2Q2014 (61 hosp)
Rate	1.26	1.16	1.08	1.05	1.10	1.14
Numerator	2,496	2,255	2,078	1,948	2,017	1,995
Denominator	197,606	193,965	192,412	185,145	183,169	175,645

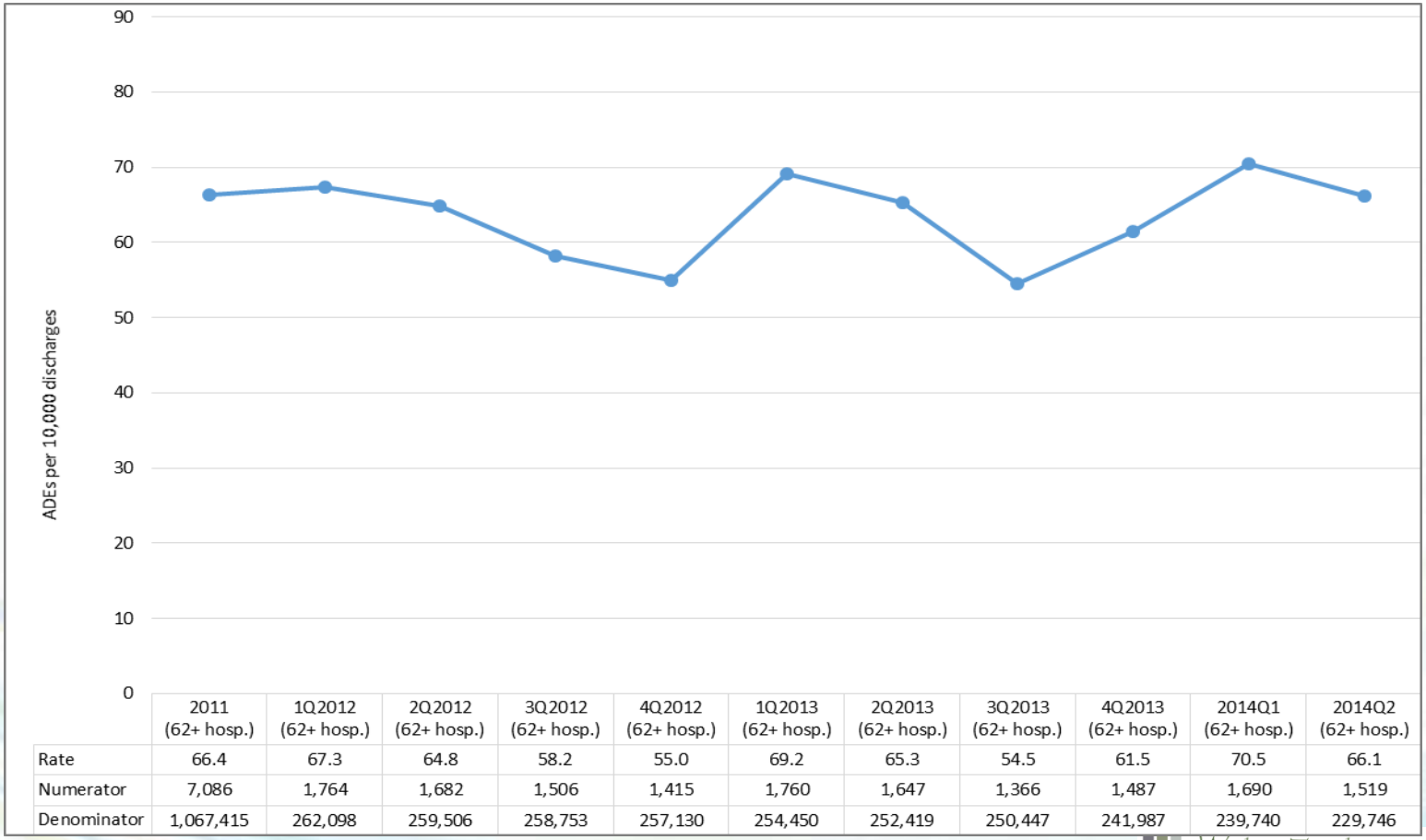
Falls



	1Q11 (n=42)	2Q11 (n=42)	3Q11 (n=48)	4Q11 (n=46)	1Q12 (n=48)	2Q12 (n=50)	3Q12 (n=52)	4Q12 (n=52)	1Q13 (n=50)	2Q13 (n=52)	3Q13 (n=49)	4Q13 (n=49)	Jan-14 (n=30)	Feb-14 (n=29)	Mar-14 (n=30)
Rate	3.11	3.12	3.03	2.96	2.87	3.03	2.94	3.02	2.85	2.76	2.76	3.01	2.96	2.75	2.79
Numerator	1,555	1,535	1,663	1,603	1,736	1,783	1,777	1,911	1,816	1,698	1,592	1,607	373	303	386
Denominator	499,797	492,228	548,559	541,164	605,900	588,032	605,382	633,407	638,060	616,121	576,685	534,534	125,933	110,227	138,323
NJHEN Target (30%)	2.18	2.18	2.18	2.18	2.18	2.18	2.18	2.18	2.18	2.18	2.18	2.18	2.18	2.18	2.18
National Benchmark	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15

Adverse Drug Events

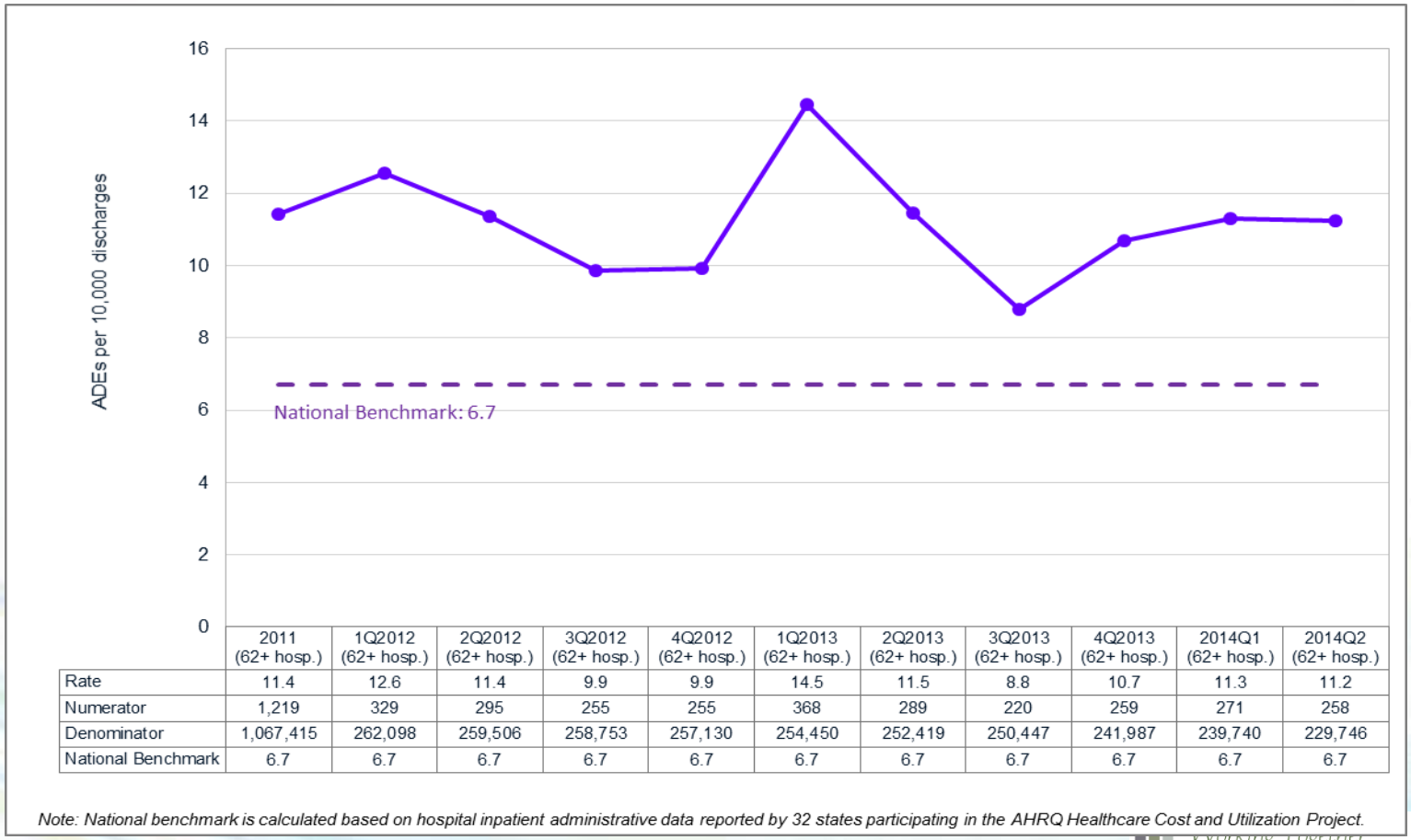
New Jersey Discharge Data Collection System



	2011 (62+ hosp.)	1Q2012 (62+ hosp.)	2Q2012 (62+ hosp.)	3Q2012 (62+ hosp.)	4Q2012 (62+ hosp.)	1Q2013 (62+ hosp.)	2Q2013 (62+ hosp.)	3Q2013 (62+ hosp.)	4Q2013 (62+ hosp.)	2014Q1 (62+ hosp.)	2014Q2 (62+ hosp.)
Rate	66.4	67.3	64.8	58.2	55.0	69.2	65.3	54.5	61.5	70.5	66.1
Numerator	7,086	1,764	1,682	1,506	1,415	1,760	1,647	1,366	1,487	1,690	1,519
Denominator	1,067,415	262,098	259,506	258,753	257,130	254,450	252,419	250,447	241,987	239,740	229,746

Adverse Events Related to Warfarin

New Jersey Discharge Data Collection System

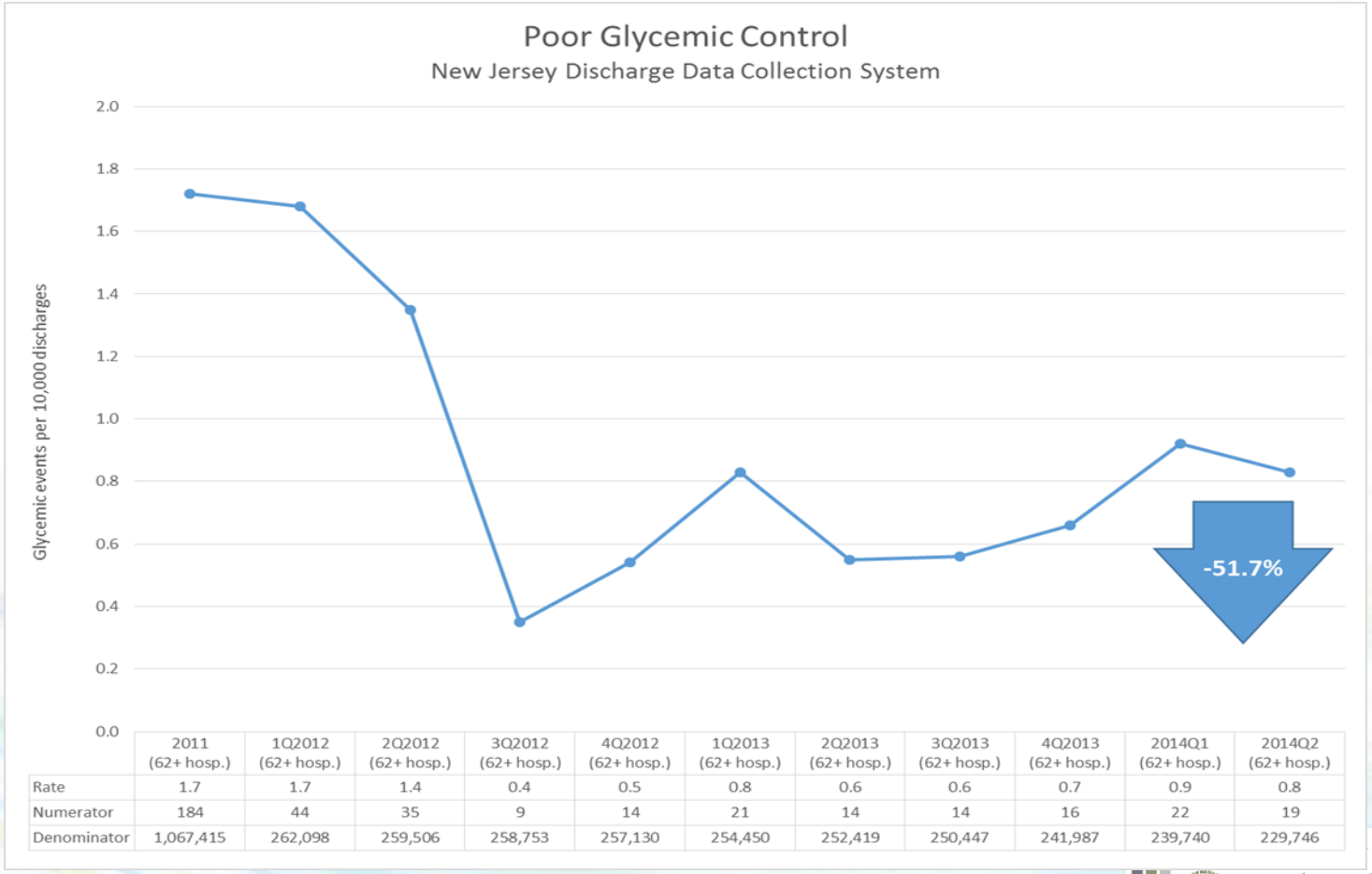


	2011 (62+ hosp.)	1Q2012 (62+ hosp.)	2Q2012 (62+ hosp.)	3Q2012 (62+ hosp.)	4Q2012 (62+ hosp.)	1Q2013 (62+ hosp.)	2Q2013 (62+ hosp.)	3Q2013 (62+ hosp.)	4Q2013 (62+ hosp.)	2014Q1 (62+ hosp.)	2014Q2 (62+ hosp.)
Rate	11.4	12.6	11.4	9.9	9.9	14.5	11.5	8.8	10.7	11.3	11.2
Numerator	1,219	329	295	255	255	368	289	220	259	271	258
Denominator	1,067,415	262,098	259,506	258,753	257,130	254,450	252,419	250,447	241,987	239,740	229,746
National Benchmark	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7

Note: National benchmark is calculated based on hospital inpatient administrative data reported by 32 states participating in the AHRQ Healthcare Cost and Utilization Project.

Poor Glycemic Control

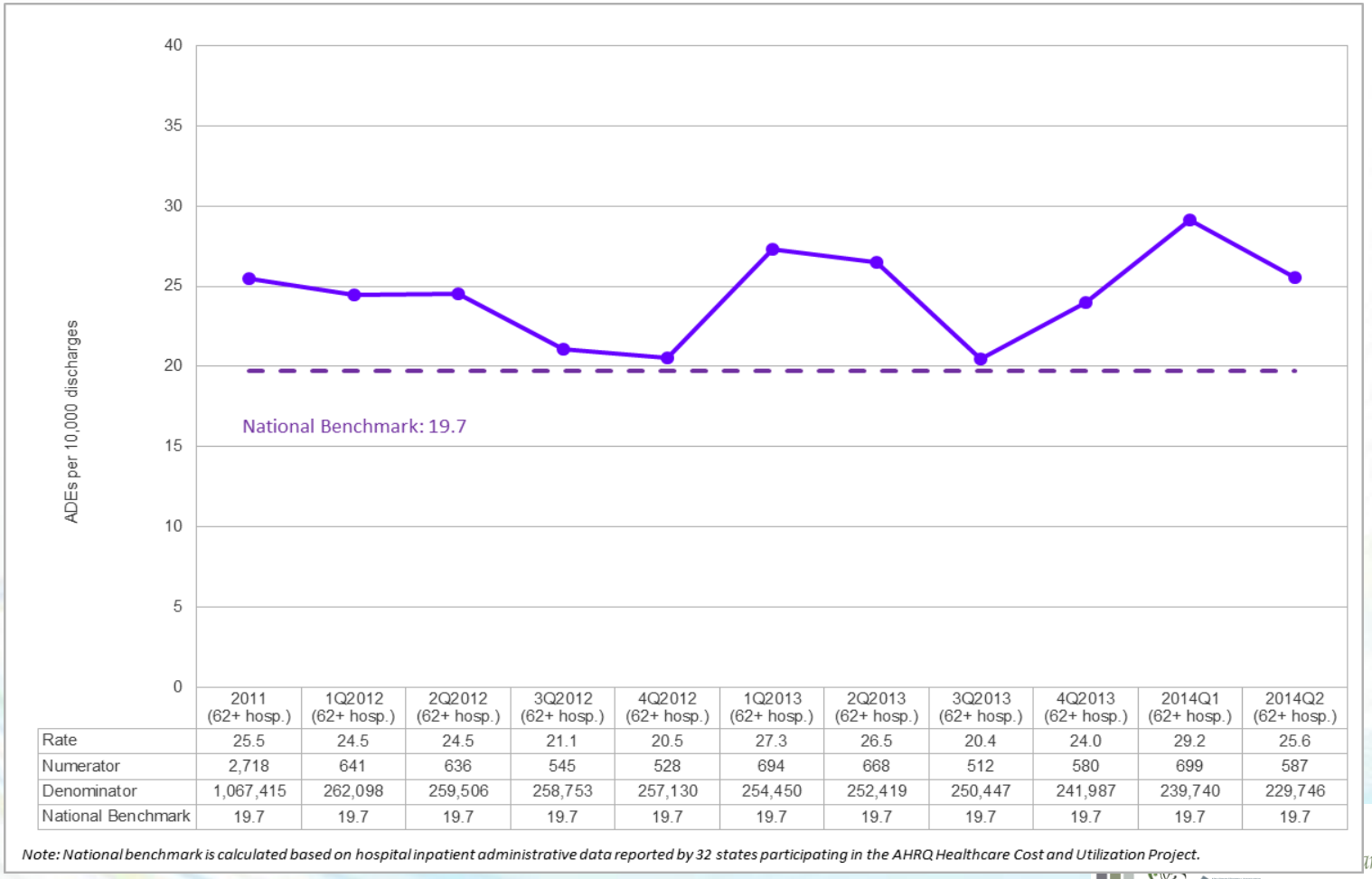
New Jersey Discharge Data Collection System



	2011 (62+ hosp.)	1Q2012 (62+ hosp.)	2Q2012 (62+ hosp.)	3Q2012 (62+ hosp.)	4Q2012 (62+ hosp.)	1Q2013 (62+ hosp.)	2Q2013 (62+ hosp.)	3Q2013 (62+ hosp.)	4Q2013 (62+ hosp.)	2014Q1 (62+ hosp.)	2014Q2 (62+ hosp.)
Rate	1.7	1.7	1.4	0.4	0.5	0.8	0.6	0.6	0.7	0.9	0.8
Numerator	184	44	35	9	14	21	14	14	16	22	19
Denominator	1,067,415	262,098	259,506	258,753	257,130	254,450	252,419	250,447	241,987	239,740	229,746

Adverse Events Related Steroids

New Jersey Discharge Data Collection System

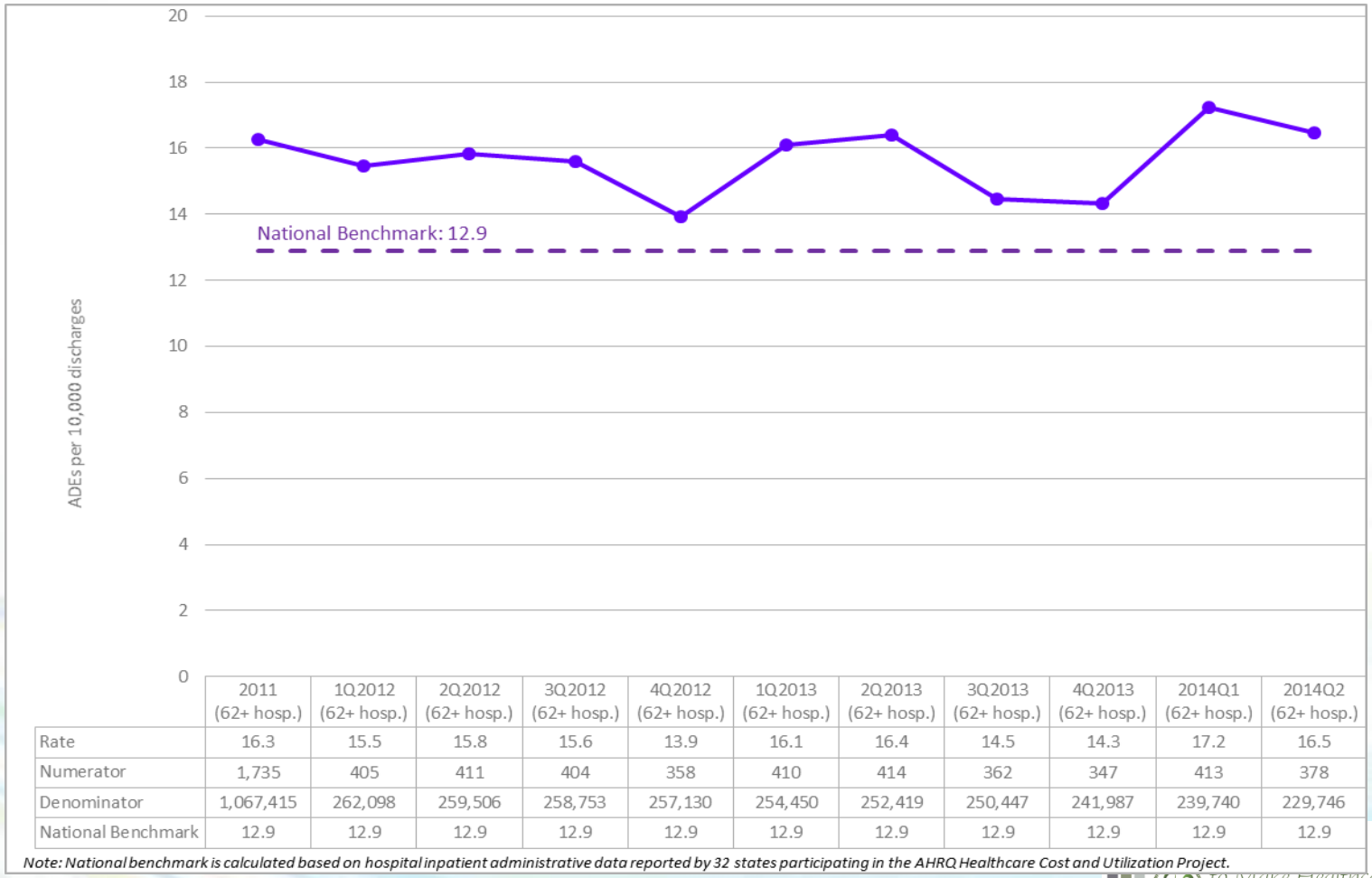


	2011 (62+ hosp.)	1Q2012 (62+ hosp.)	2Q2012 (62+ hosp.)	3Q2012 (62+ hosp.)	4Q2012 (62+ hosp.)	1Q2013 (62+ hosp.)	2Q2013 (62+ hosp.)	3Q2013 (62+ hosp.)	4Q2013 (62+ hosp.)	2014Q1 (62+ hosp.)	2014Q2 (62+ hosp.)
Rate	25.5	24.5	24.5	21.1	20.5	27.3	26.5	20.4	24.0	29.2	25.6
Numerator	2,718	641	636	545	528	694	668	512	580	699	587
Denominator	1,067,415	262,098	259,506	258,753	257,130	254,450	252,419	250,447	241,987	239,740	229,746
National Benchmark	19.7	19.7	19.7	19.7	19.7	19.7	19.7	19.7	19.7	19.7	19.7

Note: National benchmark is calculated based on hospital inpatient administrative data reported by 32 states participating in the AHRQ Healthcare Cost and Utilization Project.

Adverse Events from Antibiotics

New Jersey Discharge Data Collection System

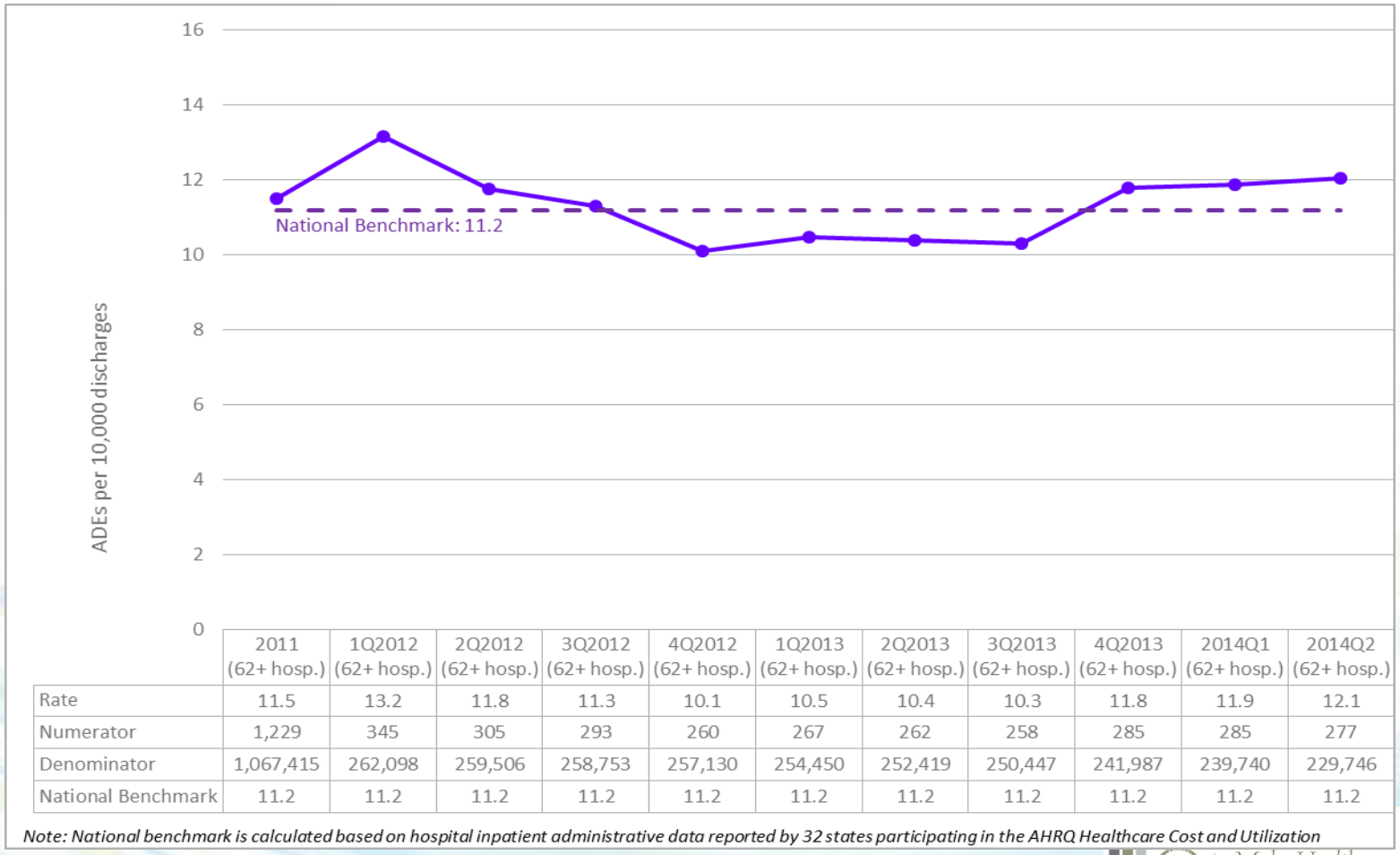


	2011 (62+ hosp.)	1Q2012 (62+ hosp.)	2Q2012 (62+ hosp.)	3Q2012 (62+ hosp.)	4Q2012 (62+ hosp.)	1Q2013 (62+ hosp.)	2Q2013 (62+ hosp.)	3Q2013 (62+ hosp.)	4Q2013 (62+ hosp.)	2014Q1 (62+ hosp.)	2014Q2 (62+ hosp.)
Rate	16.3	15.5	15.8	15.6	13.9	16.1	16.4	14.5	14.3	17.2	16.5
Numerator	1,735	405	411	404	358	410	414	362	347	413	378
Denominator	1,067,415	262,098	259,506	258,753	257,130	254,450	252,419	250,447	241,987	239,740	229,746
National Benchmark	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9

Note: National benchmark is calculated based on hospital inpatient administrative data reported by 32 states participating in the AHRQ Healthcare Cost and Utilization Project.

Adverse Events from Opiates

New Jersey Discharge Data Collection System

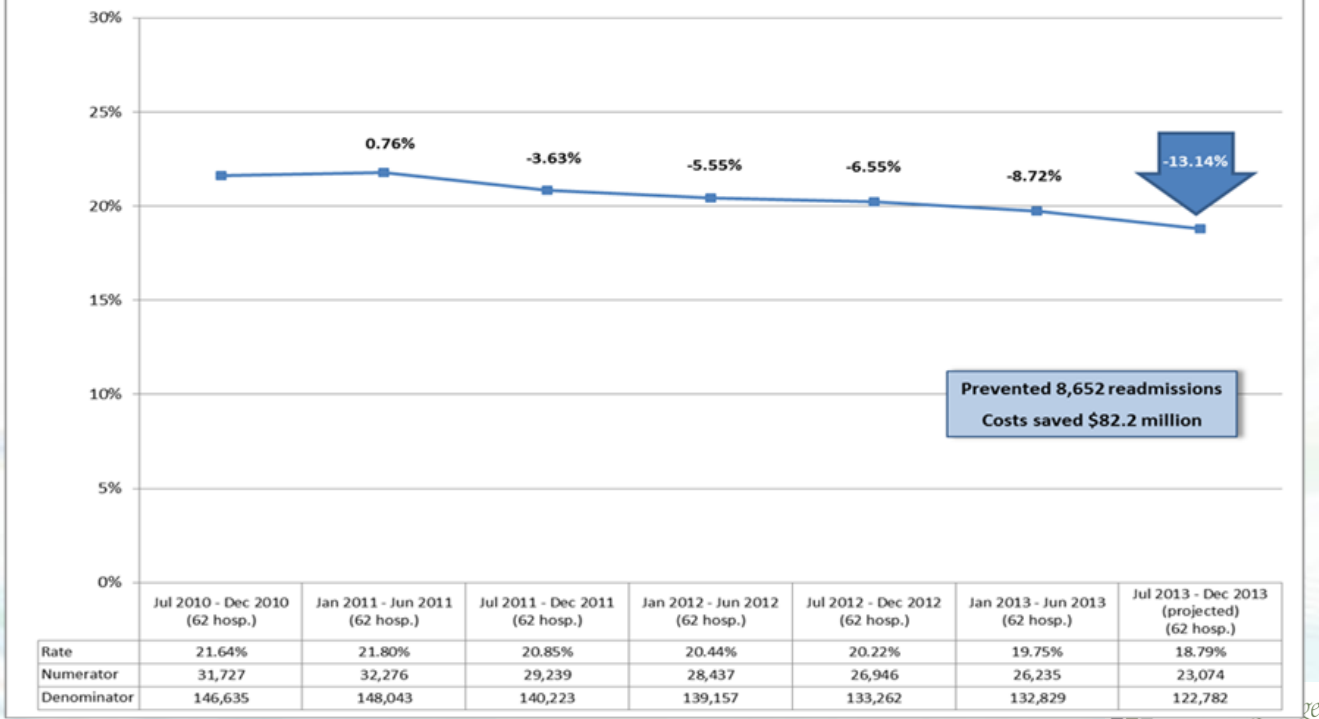


	2011 (62+ hosp.)	1Q2012 (62+ hosp.)	2Q2012 (62+ hosp.)	3Q2012 (62+ hosp.)	4Q2012 (62+ hosp.)	1Q2013 (62+ hosp.)	2Q2013 (62+ hosp.)	3Q2013 (62+ hosp.)	4Q2013 (62+ hosp.)	2014Q1 (62+ hosp.)	2014Q2 (62+ hosp.)
Rate	11.5	13.2	11.8	11.3	10.1	10.5	10.4	10.3	11.8	11.9	12.1
Numerator	1,229	345	305	293	260	267	262	258	285	285	277
Denominator	1,067,415	262,098	259,506	258,753	257,130	254,450	252,419	250,447	241,987	239,740	229,746
National Benchmark	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2

Note: National benchmark is calculated based on hospital inpatient administrative data reported by 32 states participating in the AHRQ Healthcare Cost and Utilization

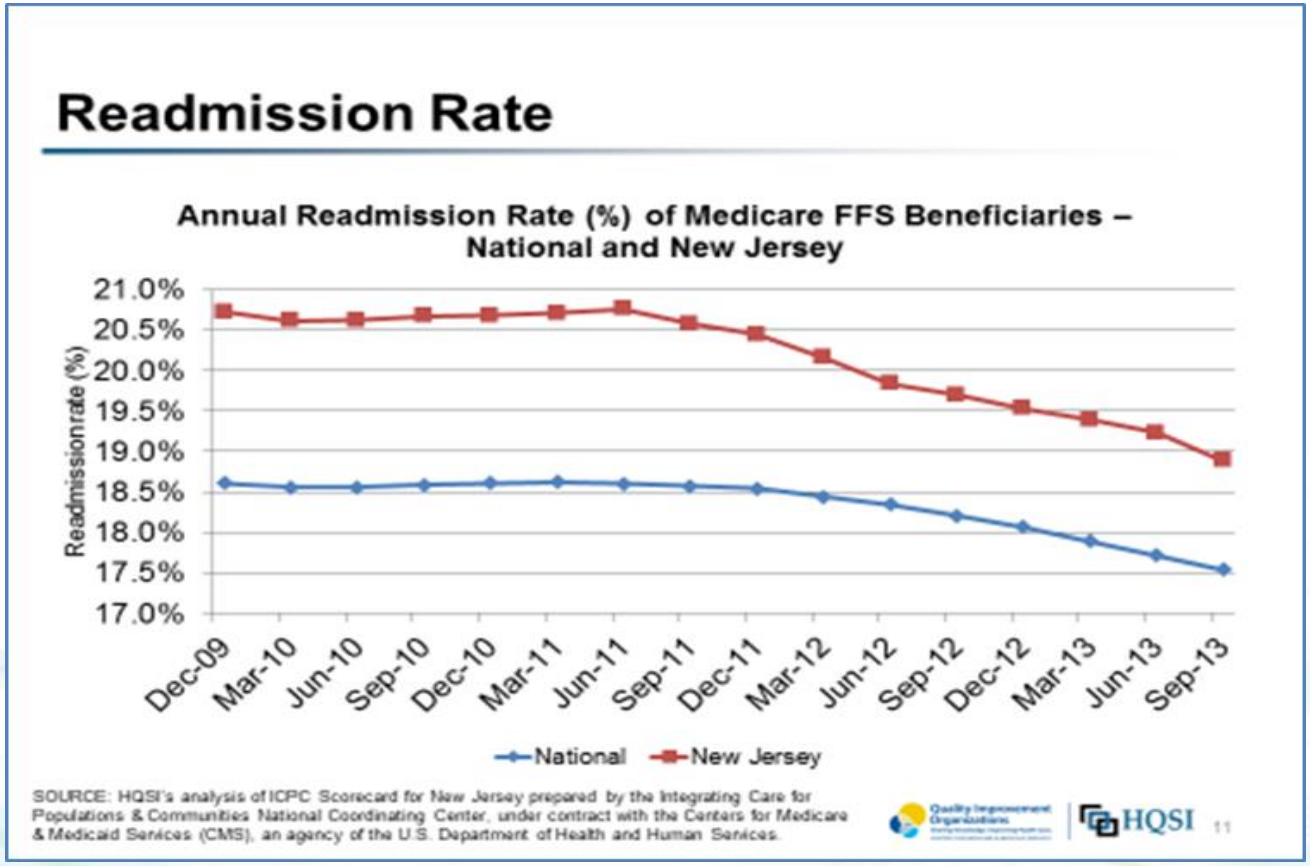
Readmissions

New Jersey HEN
On the Road to Productive Excellence in Readmissions



	Jul 2010 - Dec 2010 (62 hosp.)	Jan 2011 - Jun 2011 (62 hosp.)	Jul 2011 - Dec 2011 (62 hosp.)	Jan 2012 - Jun 2012 (62 hosp.)	Jul 2012 - Dec 2012 (62 hosp.)	Jan 2013 - Jun 2013 (62 hosp.)	Jul 2013 - Dec 2013 (projected) (62 hosp.)
Rate	21.64%	21.80%	20.85%	20.44%	20.22%	19.75%	18.79%
Numerator	31,727	32,276	29,239	28,437	26,946	26,235	23,074
Denominator	146,635	148,043	140,223	139,157	133,262	132,829	122,782

Readmissions



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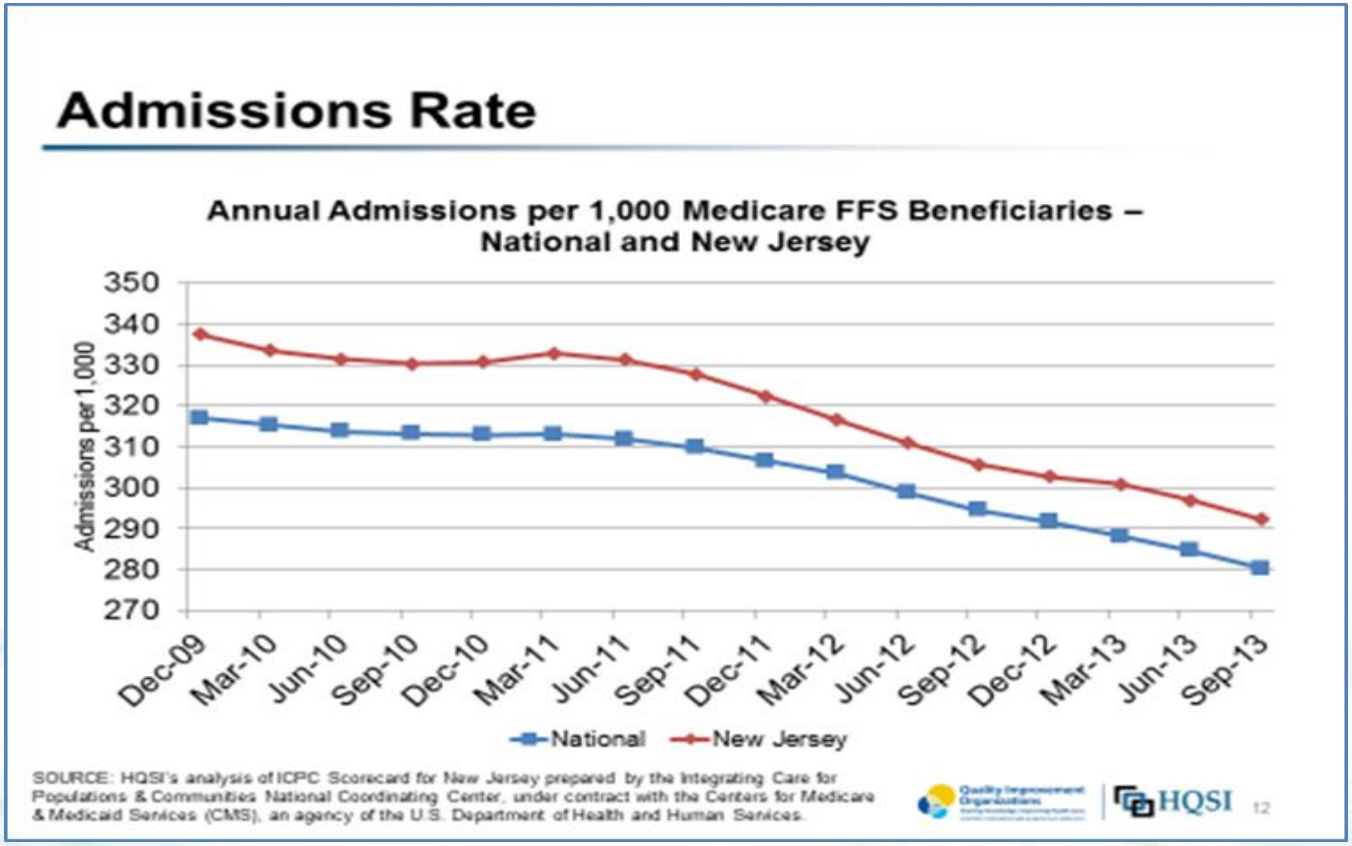
NJHA

Admission Rate



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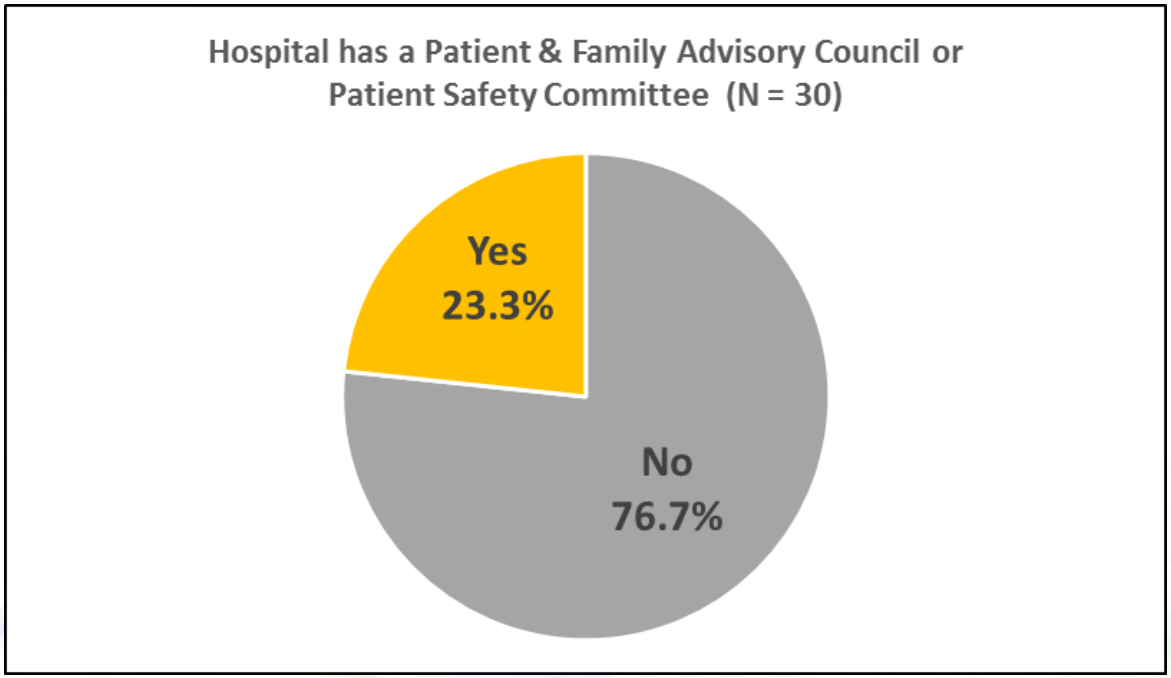
NJHA

Patient & Family Engagement



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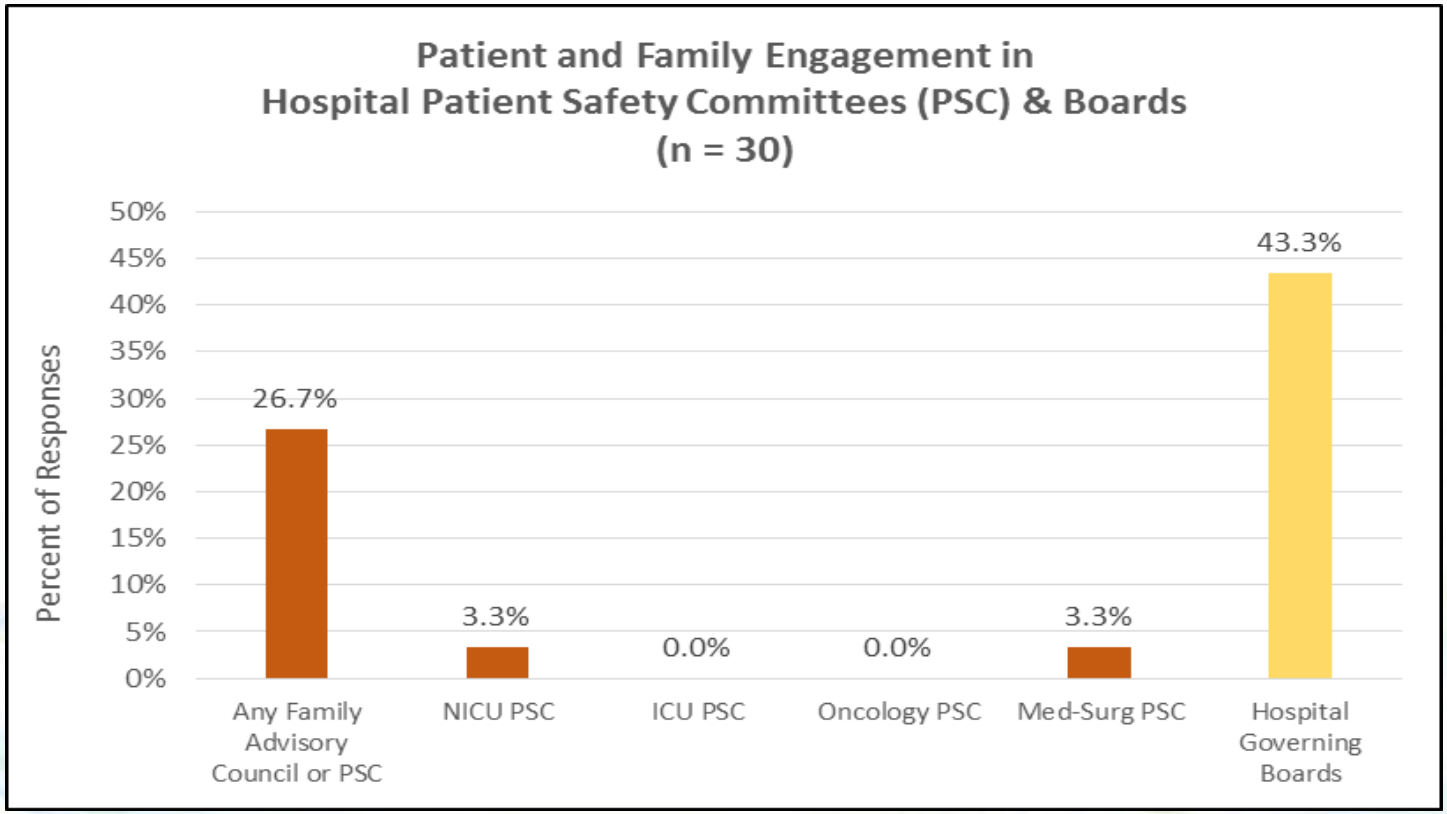
Patient & Family Engagement



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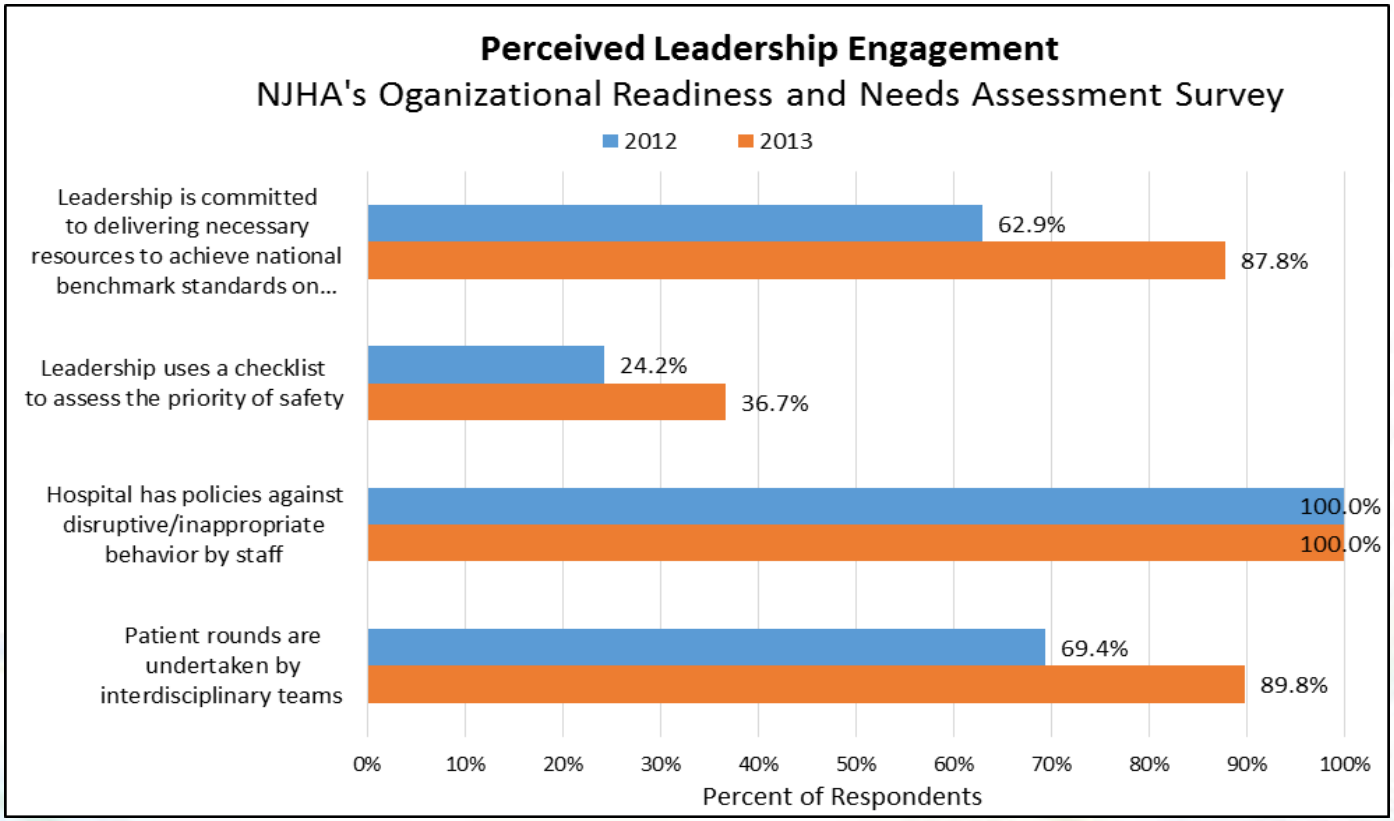
Leadership



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Thank you!

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