

# On the CUSP: Stop BSI

## Kansas/Missouri CLABSI Face-to-Face Meeting: What are we learning from the data?

December 6, 2011



# Learning Objectives

To understand state-level progress toward:

- reducing the rate of central line associated blood stream infections (CLABSI) AND
- implementing the Comprehensive Unit-based Safety Program (CUSP)

# CLABSI Data Timelines

## Cohort 2 (Greater KC Area)

Baseline:

Sept. 2008 – Aug. 2009

Prospective/Intervention:

Sept. 2009 to Sept. 2011

Monthly Team Checkup

Tool (MTCT):

Sept. 2009 to Sept. 2011

## Cohort 5 (Kansas)

Baseline:

Nov. 2009 – Oct. 2010

Prospective/Intervention:

Nov. 2010 - Present

Monthly Team Checkup

Tool (MTCT):

Nov. 2010 - Present

## Cohort 6 (KS/MO)

Baseline:

Mar. 2010 – Feb. 2011

Prospective/Intervention:

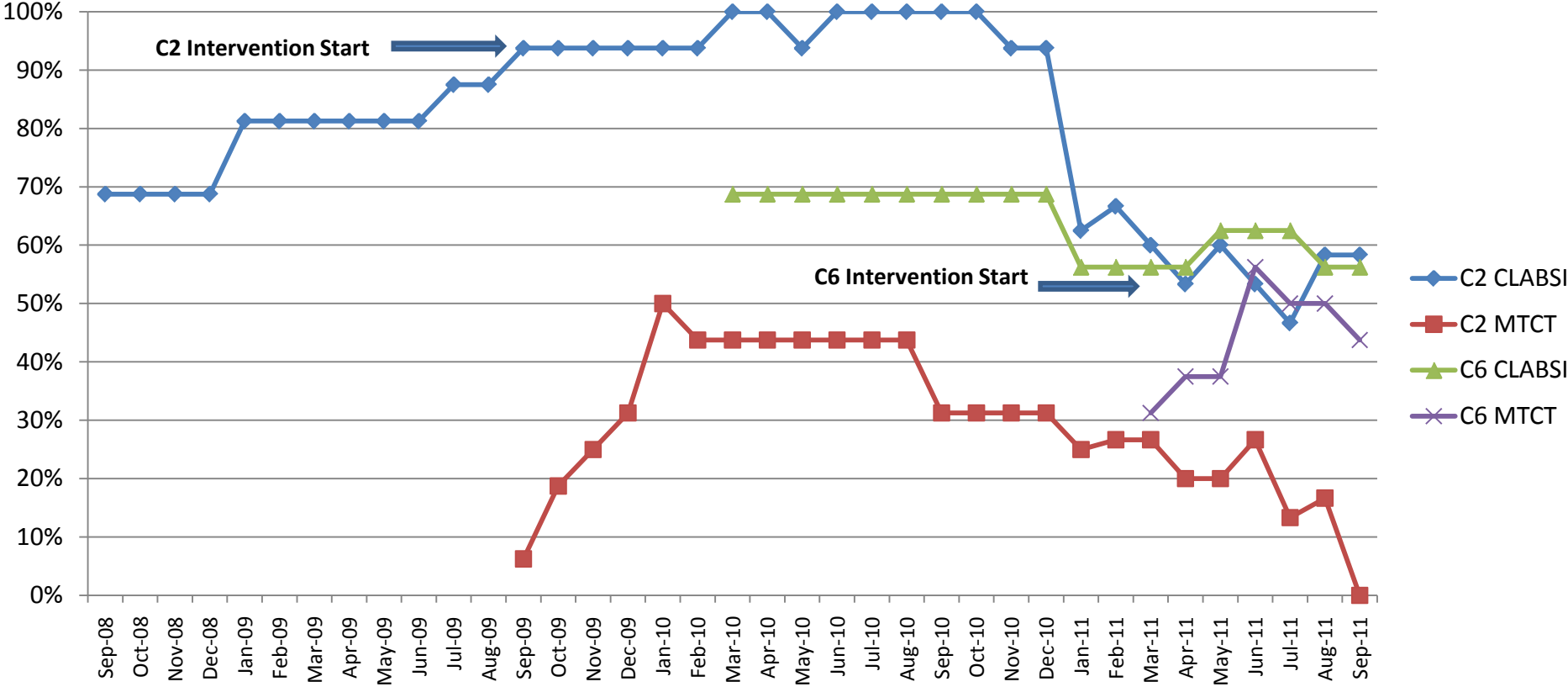
Mar. 2011 - Present

Monthly Team Checkup

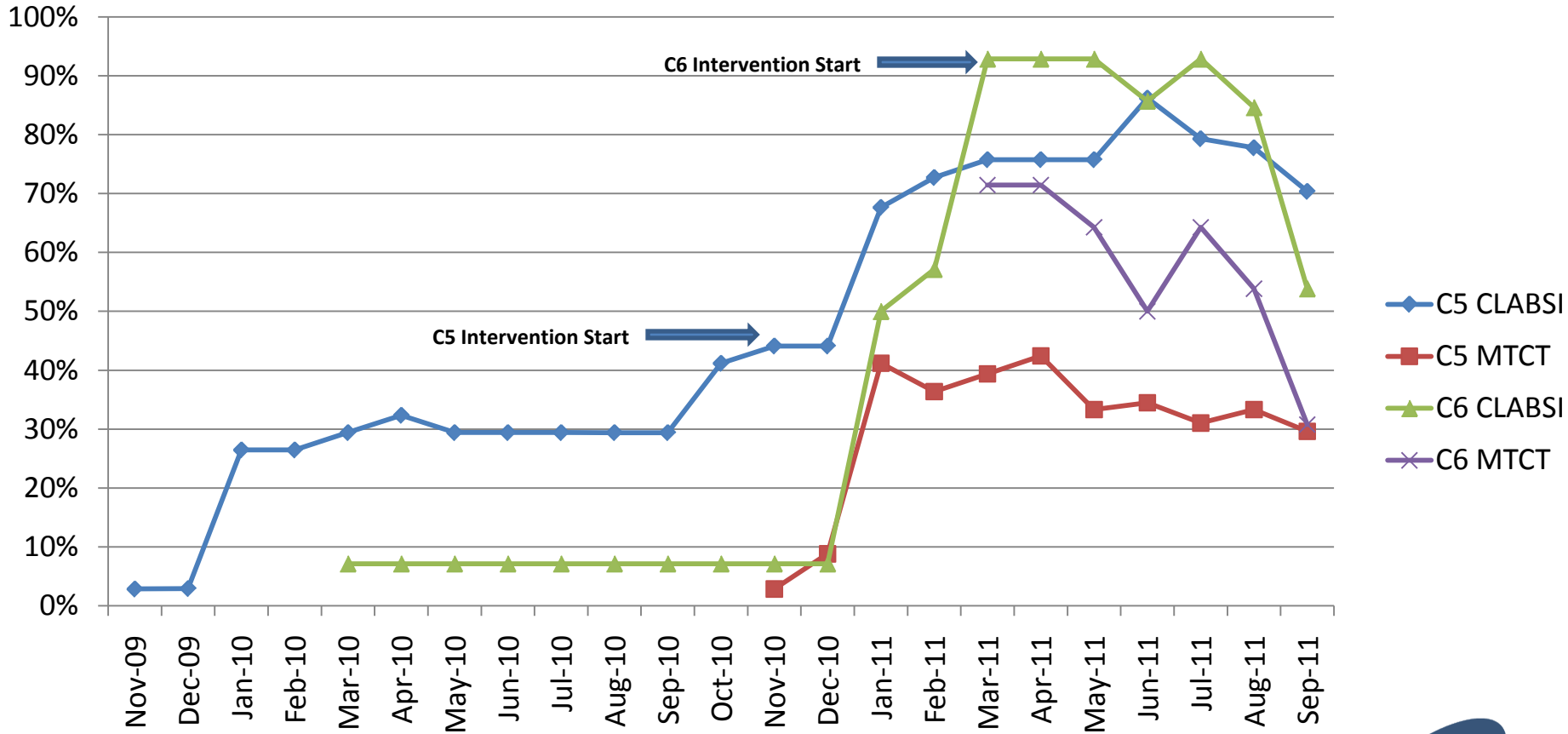
Tool (MTCT):

Mar. 2011 - Present

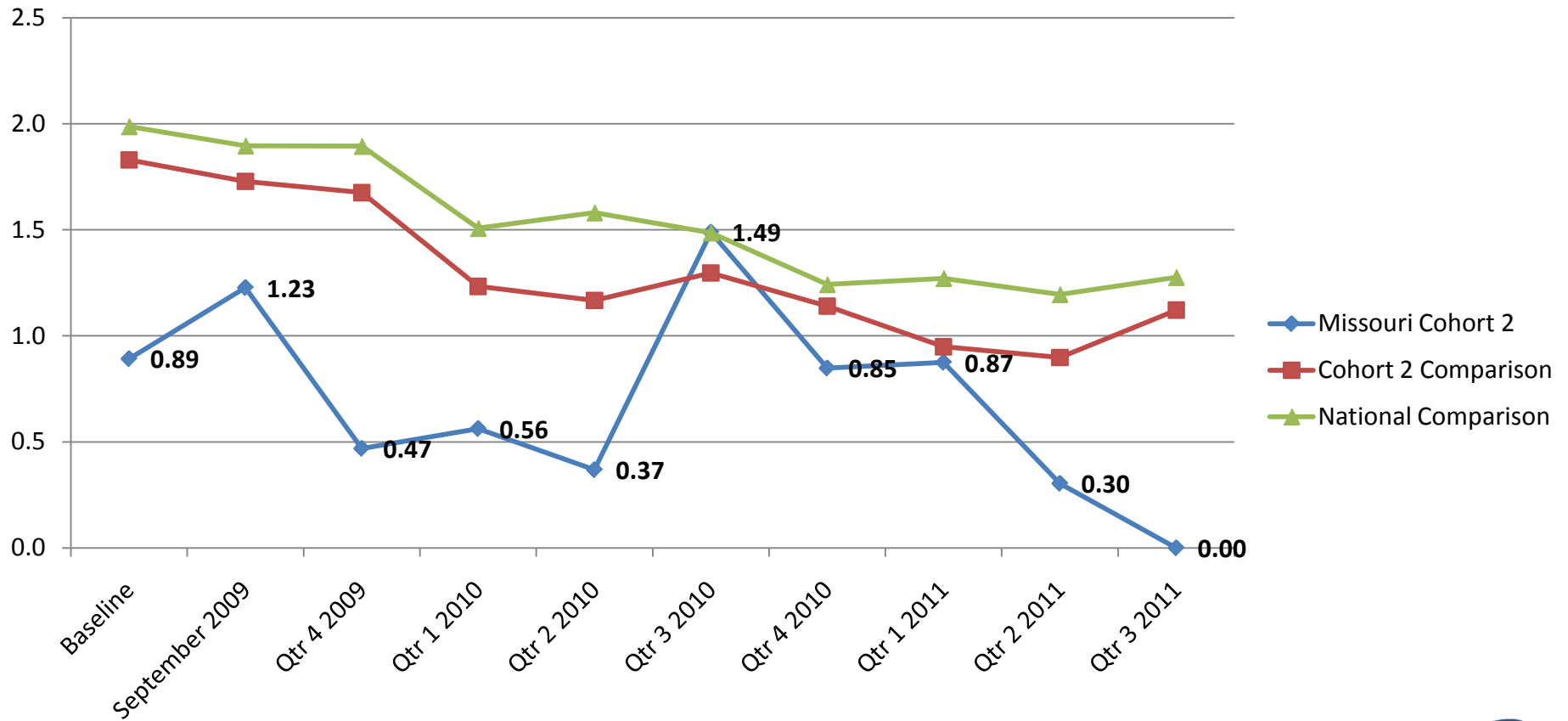
# Missouri: Data Submission



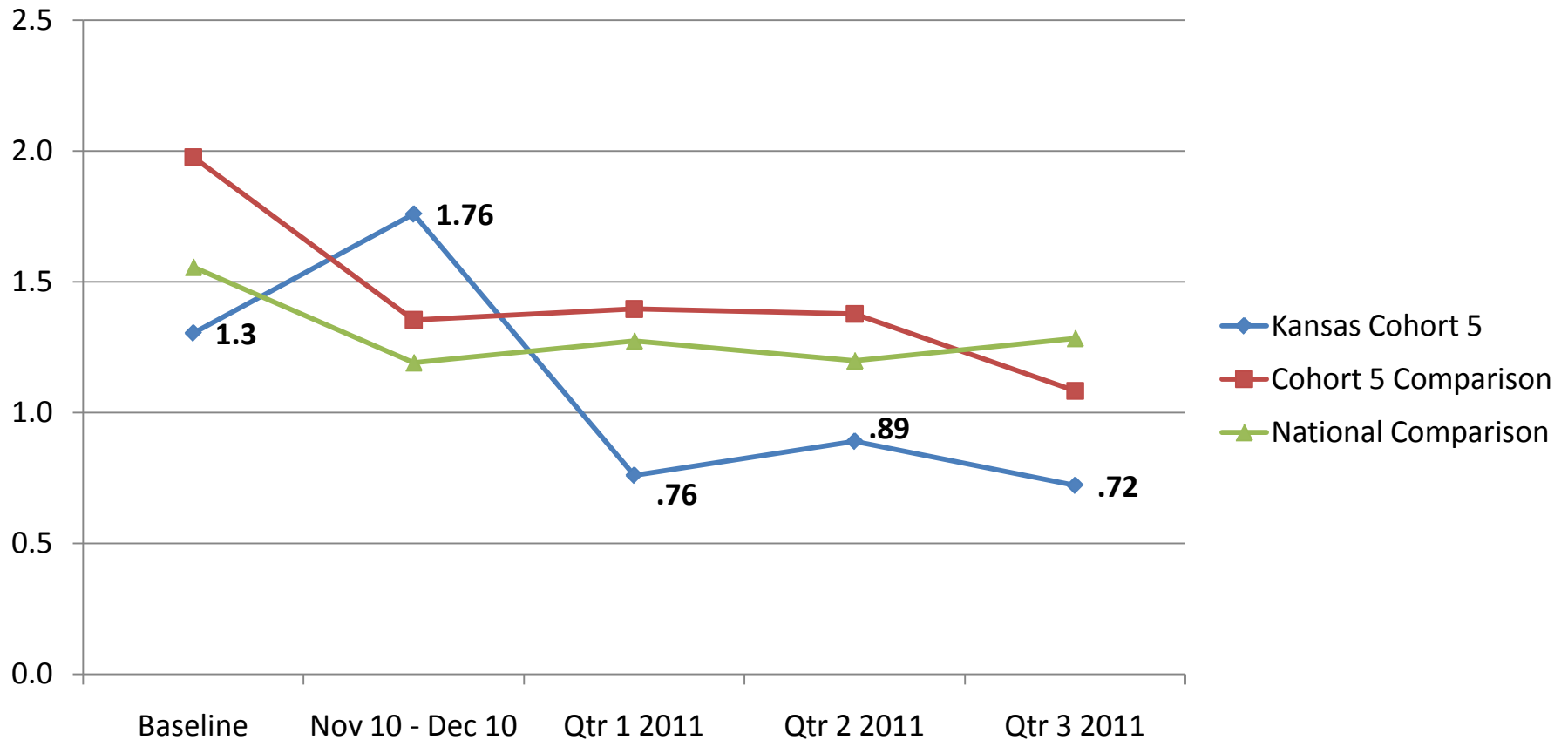
# Kansas: Data Submission



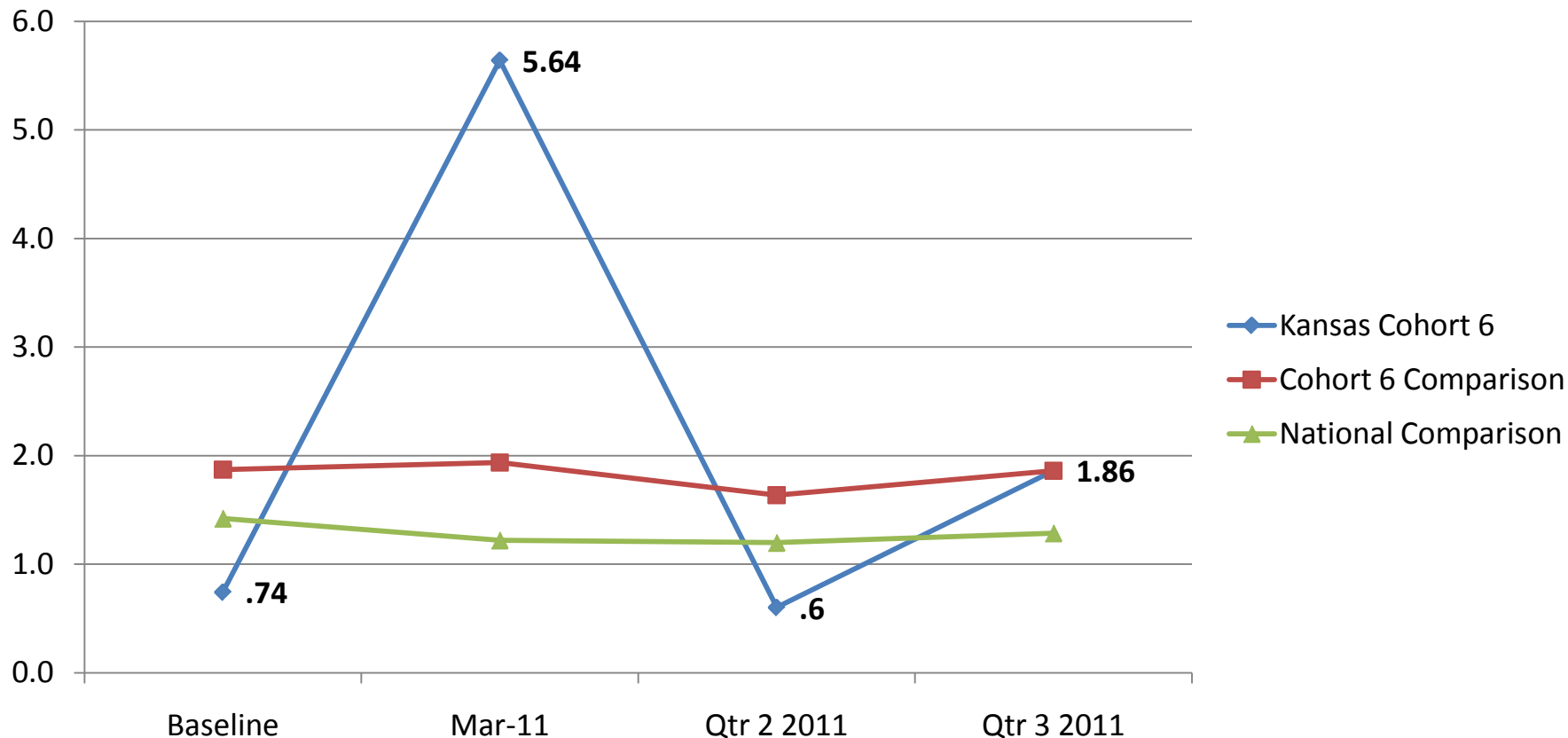
# Kansas City Cohort 2: CLABSI Rates Over Time



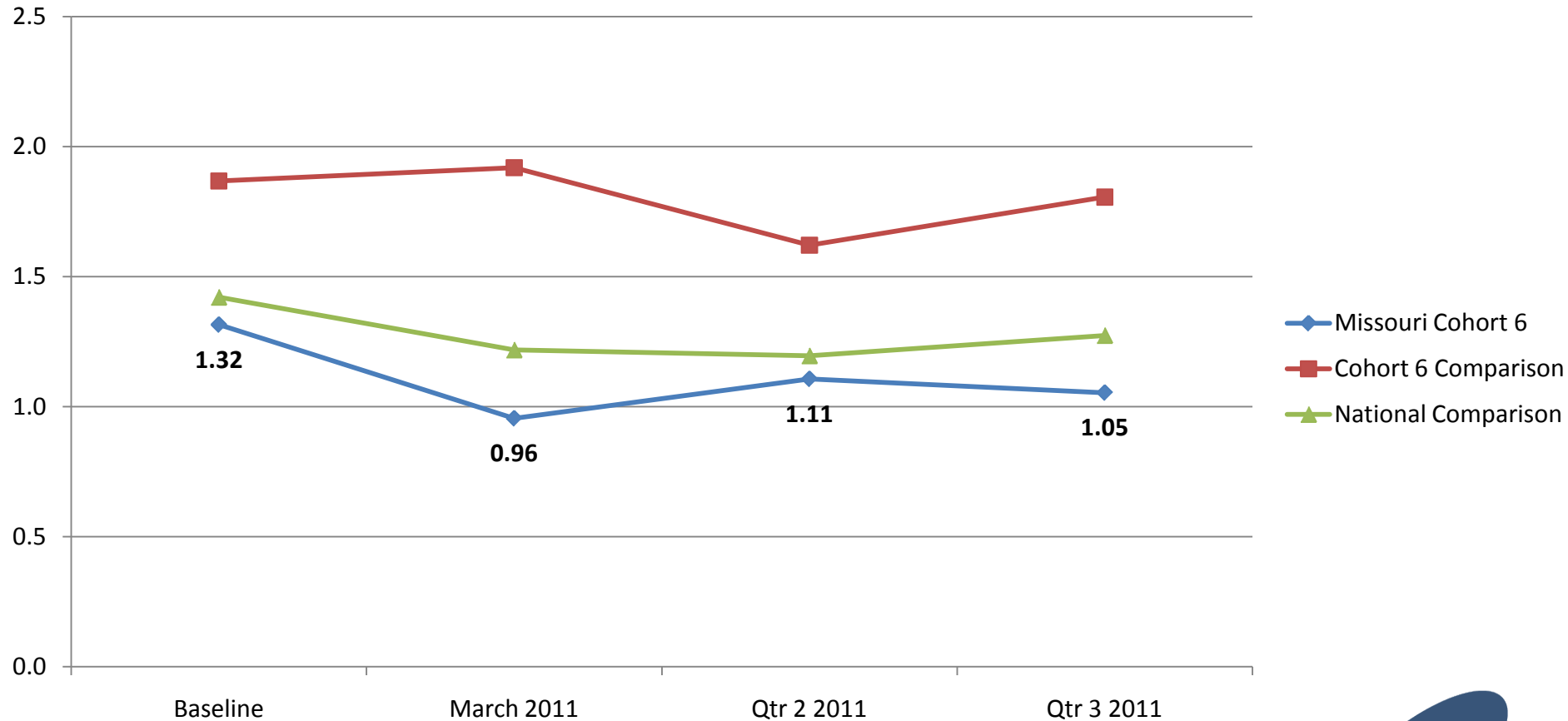
# Kansas Cohort 5: CLABSI Rates Over Time



# Kansas Cohort 6: CLABSI Rates Over Time



# Missouri Cohort 6: CLABSI Rates Over Time



# Why Worry about Decreasing your CLABSI Rate?

## Consequences of BSI's:

Each BSI:

- Has a 12.3% case fatality rate
- Adds an average of \$53,000 in costs to that admission
- Adds an average of 8 days to LOS



# Kansas City Cohort 2: Estimated Impact

	<b>BSIs</b>	<b>Attributable Deaths</b>	<b>Excess Cost</b>	<b>Additional Hospital Days</b>
Baseline	15	1.845	\$795,000	120
Sep-09	2	0.246	\$106,000	16
Qtr 4 2009	3	0.369	\$159,000	24
Qtr 1 2010	5	0.615	\$265,000	40
Qtr 2 2010	2	0.246	\$106,000	16
Qtr 3 2010	9	1.107	\$477,000	72
Qtr 4 2010	5	0.615	\$265,000	40
Qtr 1 2011	3	0.369	\$159,000	24
Qtr 2 2011	1	0.123	\$53,000	8
Qtr 3 2011	0	0	\$0	0
<b>State Total</b>	<b>45</b>	<b>5.535</b>	<b>\$2,385,000</b>	<b>360</b>

Assumptions: 12.3% case fatality rate  
\$53,000 per BSI; 8 days per BSI

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# Kansas Cohort 5: Estimated Impact

	<b>BSIs</b>	<b>Attributable Deaths</b>	<b>Excess Cost</b>	<b>Additional Hospital Days</b>
Baseline	23	2.8	\$1,219,000	184
Nov 10 - Dec 10	7	0.9	\$371,000	56
Qtr 1 2011	5	0.6	\$265,000	40
Qtr 2 2011	6	0.7	\$318,000	48
Qtr 3 2011	4	0.5	\$212,000	32
<b>State Total</b>	<b>45</b>	<b>5.5</b>	<b>\$2,385,000</b>	<b>360</b>

Assumptions: 12.3% case fatality rate  
\$53,000 per BSI; 8 days per BSI

# Kansas Cohort 6: Estimated Impact

	<b>BSIs</b>	<b>Attributable Deaths</b>	<b>Excess Cost</b>	<b>Additional Hospital Days</b>
Baseline	2	0.2	\$106,000	16
March 2011	4	0.5	\$212,000	32
Qtr 2 2011	1	0.1	\$53,000	8
Qtr 3 2011	3	0.4	\$159,000	24
<b>State Total</b>	<b>10</b>	<b>1.2</b>	<b>\$530,000</b>	<b>80</b>

Assumptions: 12.3% case fatality rate  
\$53,000 per BSI; 8 days per BSI

# Missouri Cohort 6: Estimated Impact

	<b>BSIs</b>	<b>Attributable Deaths</b>	<b>Excess Cost</b>	<b>Additional Hospital Days</b>
Baseline	26	3.198	\$1,378,000	208
March 2011	1	0.123	\$53,000	8
Qtr 2 2011	3	0.369	\$159,000	24
Qtr 3 2011	2	0.246	\$106,000	16
<b>State Total</b>	<b>32</b>	<b>3.936</b>	<b>\$1,696,000</b>	<b>256</b>

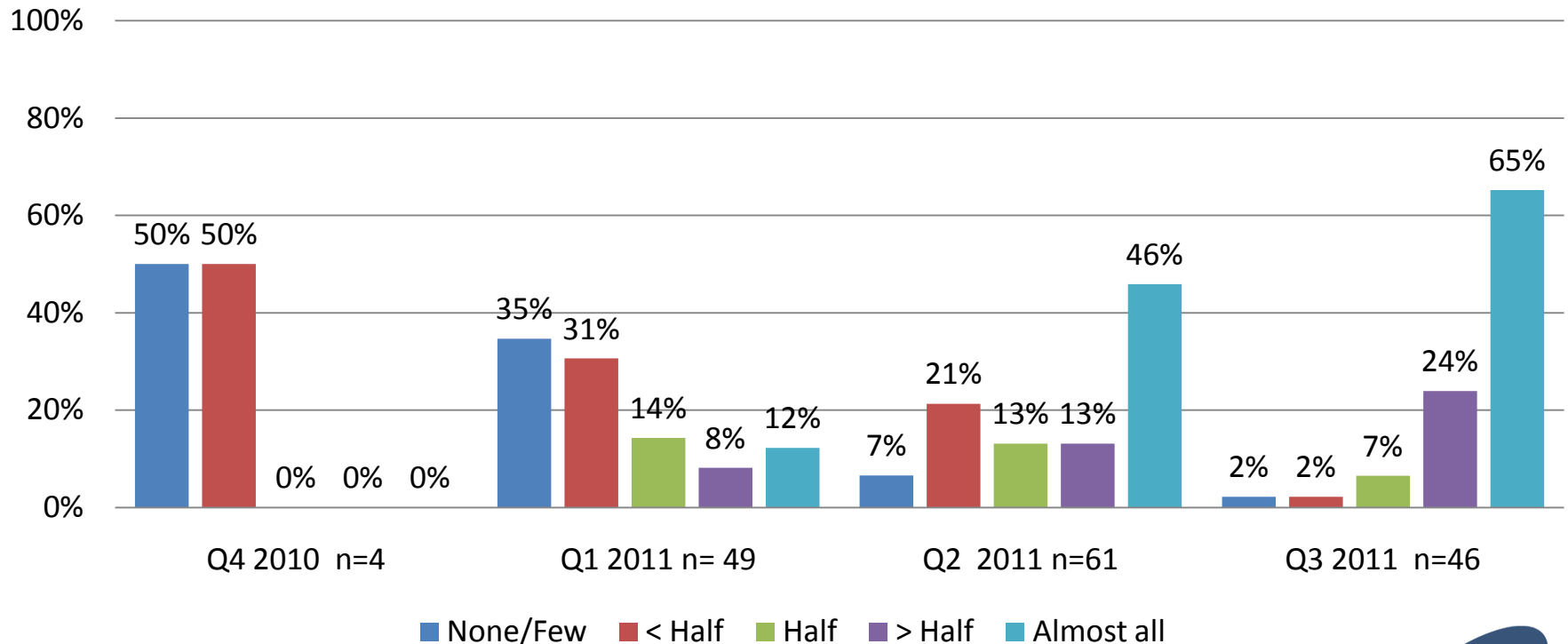
Assumptions: 12.3% case fatality rate  
\$53,000 per BSI; 8 days per BSI

# CUSP Activities

1. Science of Safety Training
2. Staff Identify Defects
3. Learning from Defects
4. Senior Executive Partnership
5. Teamwork Tools

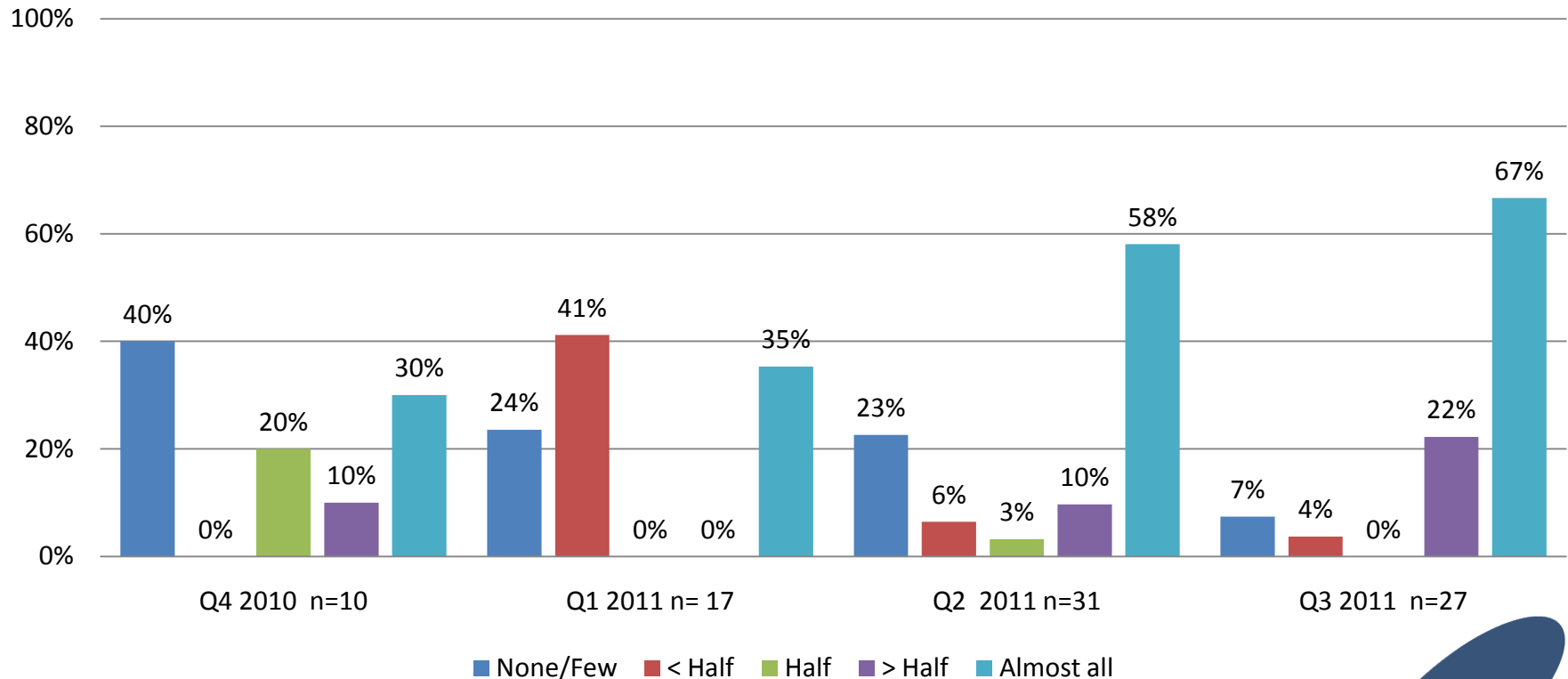
# Kansas CUSP Activities: Science of Safety Video

**Cohorts 5 and 6: What portion of your staff have viewed the Science of Safety Video?**



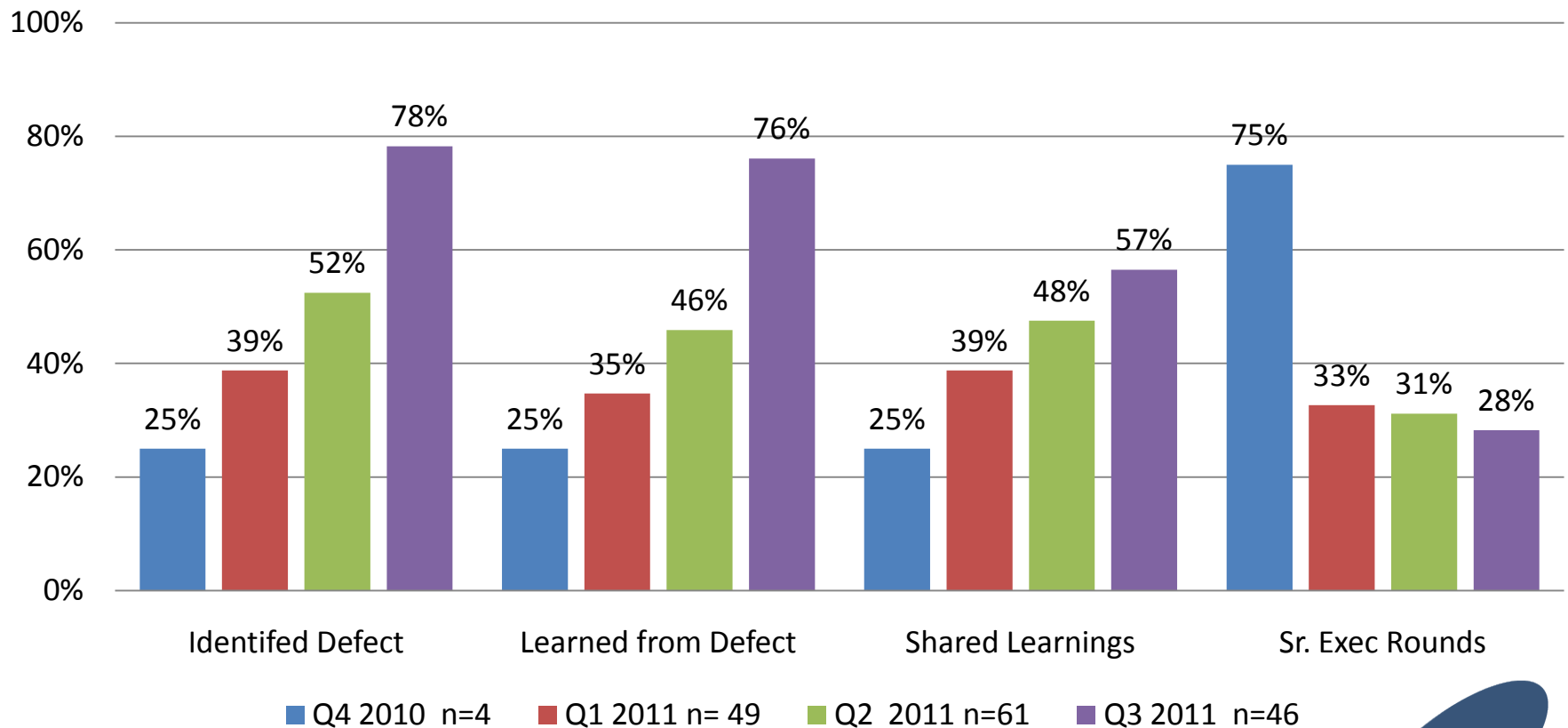
# Missouri CUSP Activities: Science of Safety Video

**Cohorts 2 and 6: What portion of your staff have viewed the Science of Safety Video?**



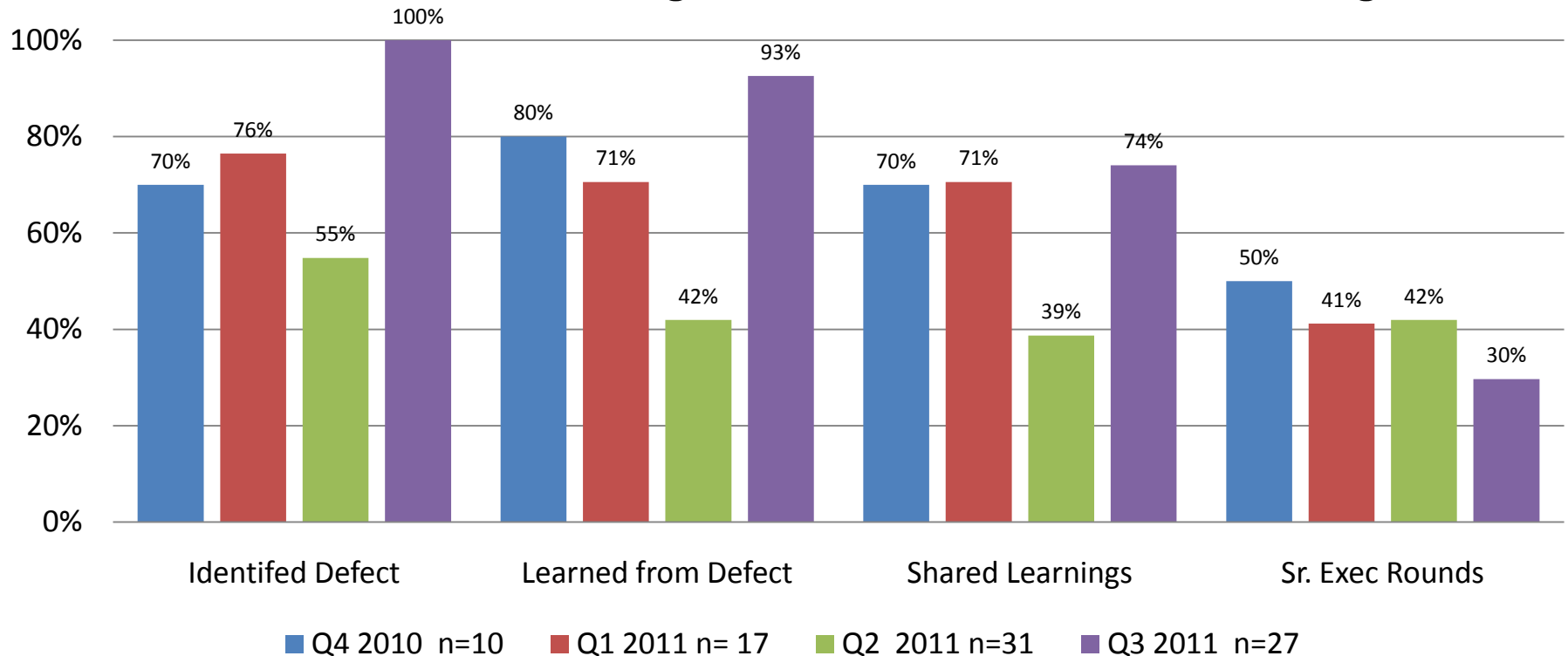
# Kansas CUSP Activities: Learning from Defects & Executive Rounding

**Cohorts 5 and 6: Percent of MTCTs Reporting Activity**

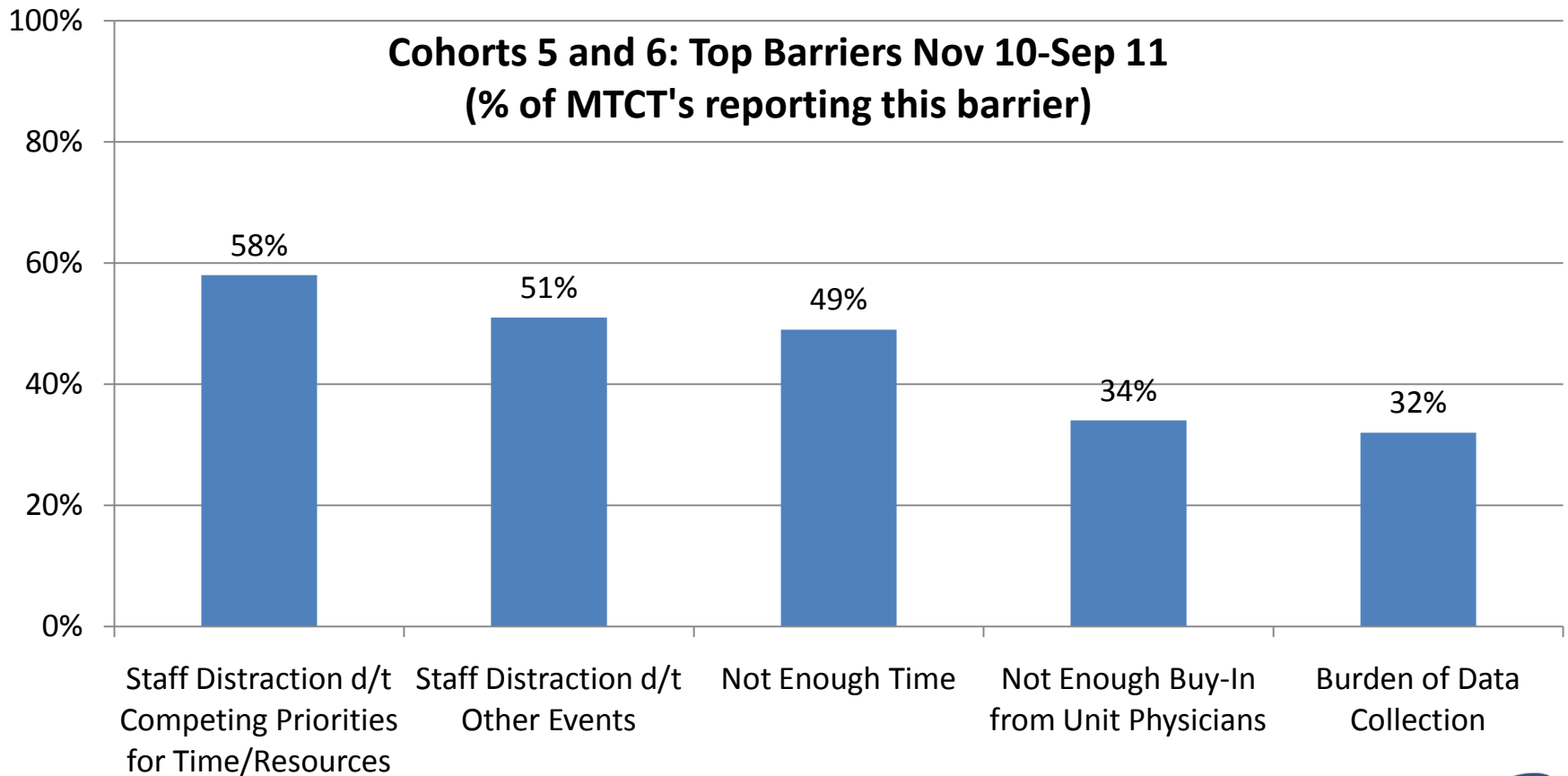


# Missouri CUSP Activities: Learning from Defects & Executive Rounding

## Cohorts 2 and 6: Learning from Defects & Executive Rounding

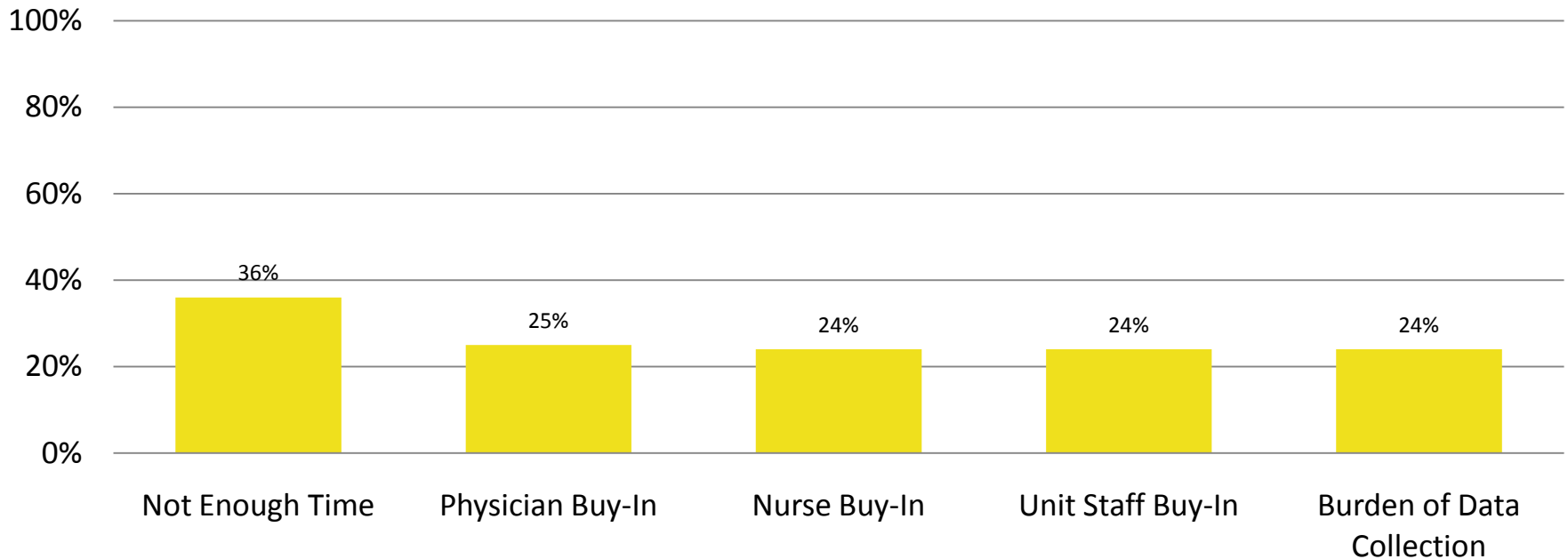


# Kansas: Top 5 Barriers



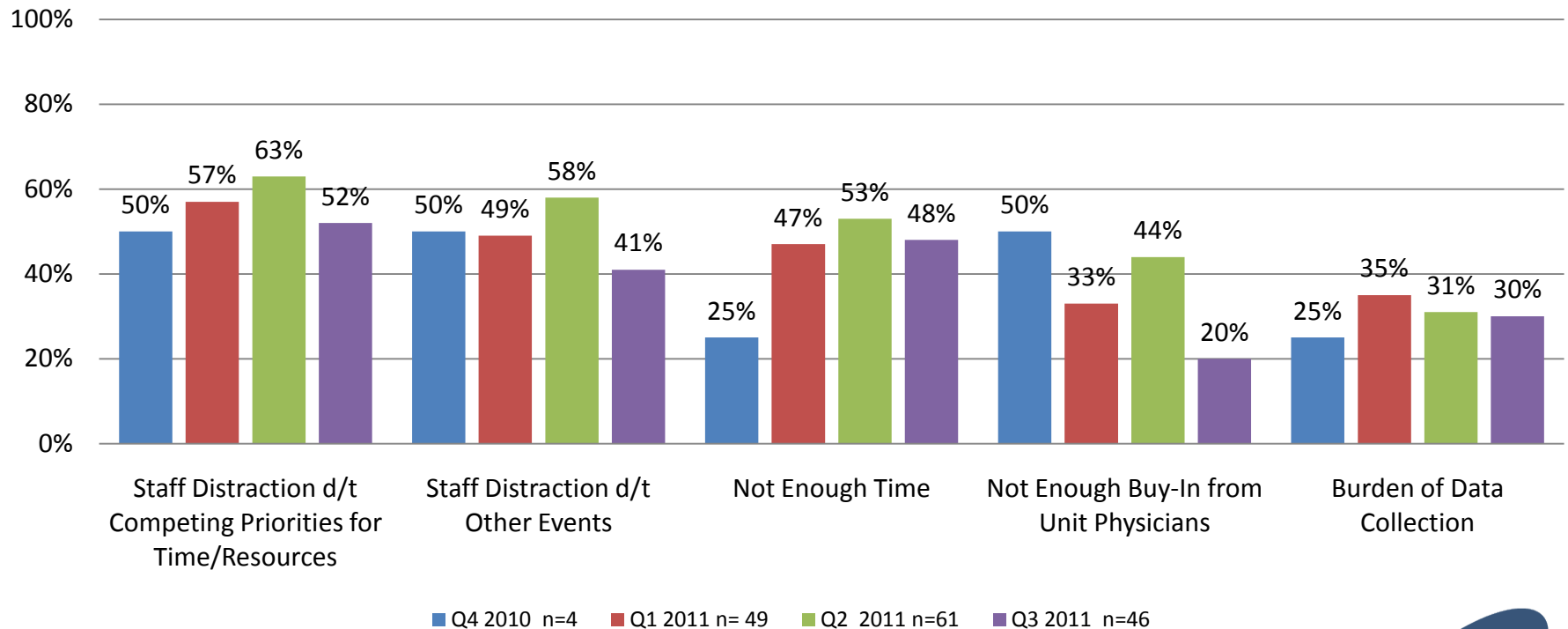
# Missouri: Top 5 Barriers

**Cohorts 2 and 6: Top Barriers Nov 10-Sep 11**  
**(% of MTCT's reporting this barrier)**



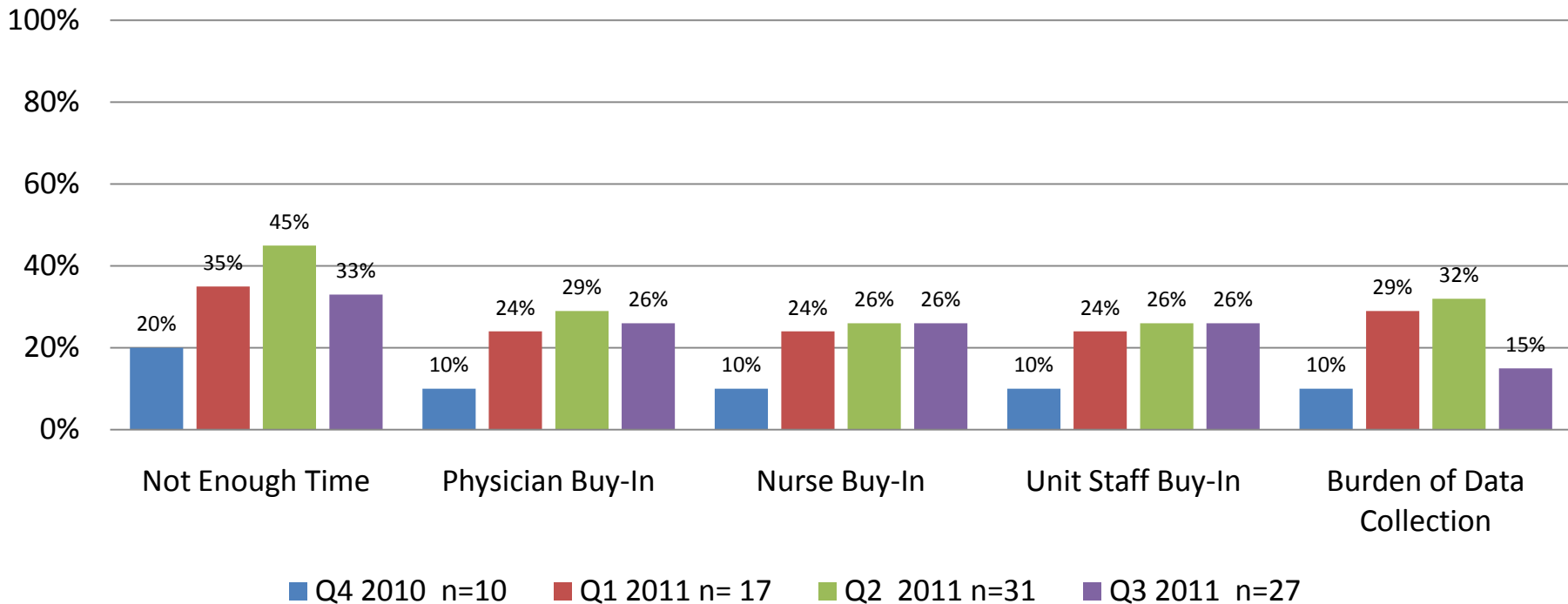
# Kansas: Barriers over Time

**Cohorts 5 and 6: Top Barriers Over Time**  
 (% of MTCT's reporting this barrier)



# Missouri: Barriers over Time

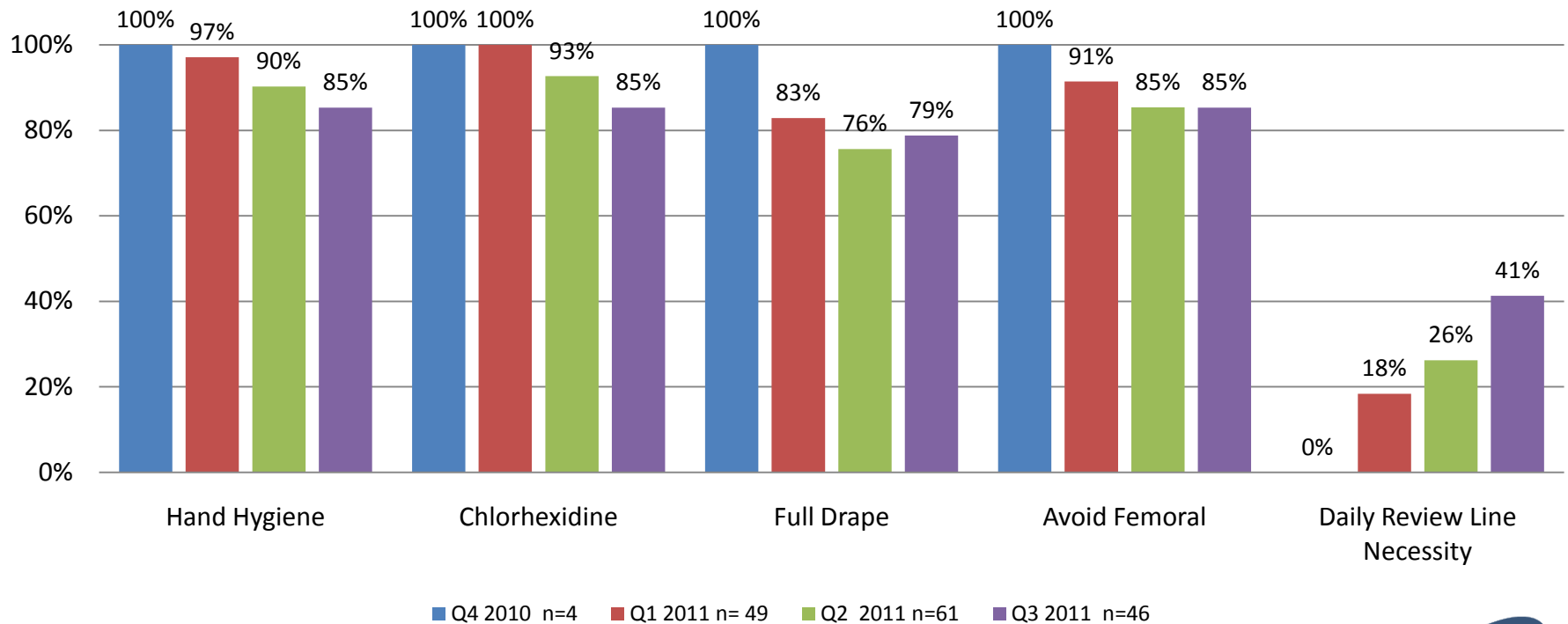
**Cohorts 2 and 6: Top Barriers Over Time  
(% of MTCT's reporting this barrier)**



# Kansas: CLABSI

## Steps for Central Line Insertion

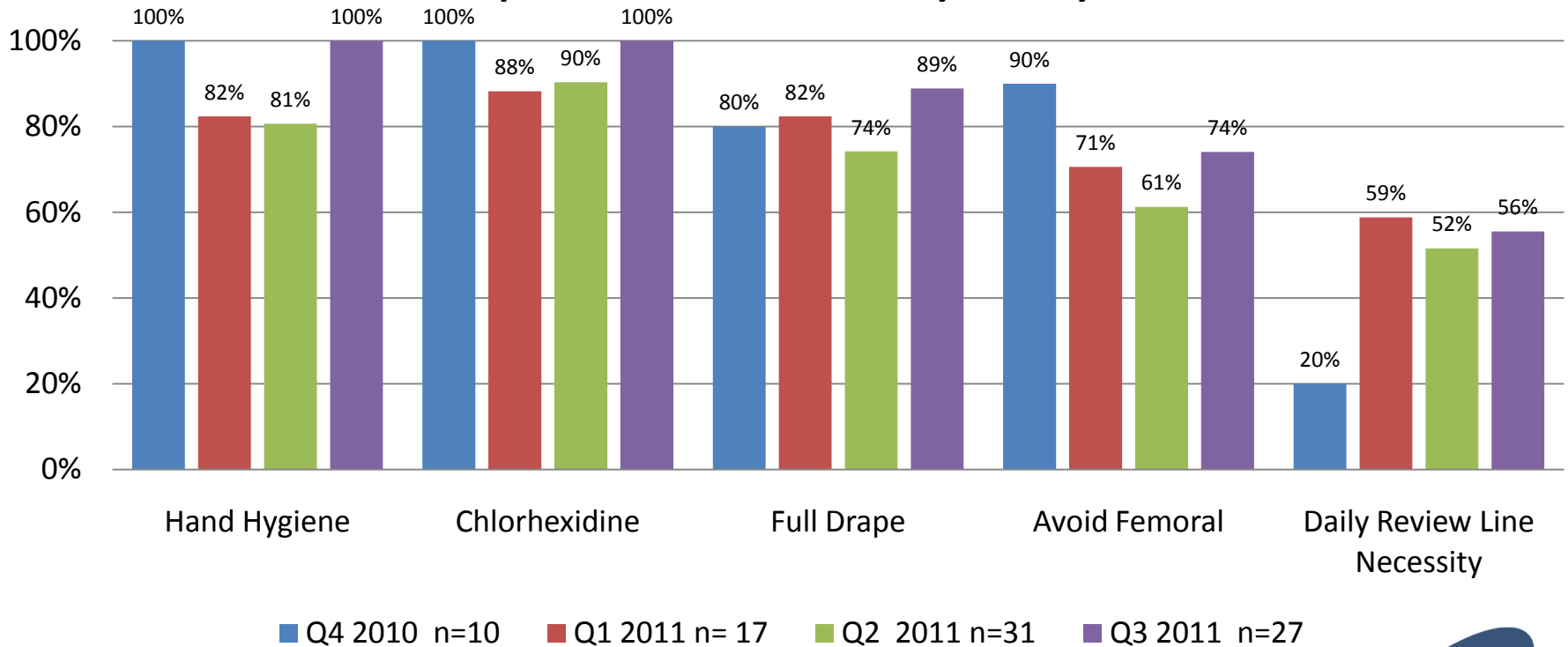
**Cohorts 5 and 6 Central Line Insertion:  
Step followed "Almost Always/Always"**



# Missouri: CLABSI

## Steps for Central Line Insertion

**Cohorts 2 and 6 Central Line Insertion:  
Step followed "Almost Always/Always"**



# Take Home Points - Kansas

## Data Submission

- CLABSI data submission was very low during baseline period for both cohorts.
- Improved during intervention period, but still opportunity to improve for Cohort 5
- MTCT submission has been low for both cohorts and limits real conclusions which can be drawn

## CLABSI Rates

- Cohort 5 teams are below national comparatives
- Cohort 6 has very low line days/CLABSIs reported leading to variability in trend line

# Take Home Points - Missouri

## Data Submission

- CLABSI data submission was good for Cohort 2, fair for Cohort 6, both were down in 2011.
- MTCT submission has been low for both cohorts and limits real conclusions which can be drawn

## CLABSI Rates

- Cohort 2 consistently below cohort and national comparatives (except Q3 2010)
- Cohort 6 has very low line days/CLABSIs reported; but data which was reported showed consistently lower than national comparatives

# Take Home Points – CUSP Activities

## Missouri

- Increasing adoption of Science of Safety video
- Started out strong in the other areas, particularly with Sr. Exec Partnership, but has been steadily decreasing

## Kansas

- Increasing adoption of Science of Safety video
- Increasing adoption of Learning from Defects
- Decreasing adoption Executive Partnership in Rounds

# Kansas & Missouri: Take Home Points

- **Central Line Insertion Steps:**
  - Good adherence to central line insertion checklist
  - Most opportunity to improve “daily review of line necessity”
- **GOLD STANDARD: Bundle steps need to be followed ALL the time, not just most of the time**

# Take Home Points – Barriers

## Missouri

1. Not enough time
2. Not enough buy-in from unit physicians
3. Not enough buy-in from nurses
4. Not enough buy-in from unit staff
5. Burden of data collection

## Kansas

1. Staff distraction d/t competing priorities for time/resources
2. Staff distraction d/t other events
3. Not enough time
4. Not enough buy-in from unit physicians
5. Burden of data collection

# Cohort 2 Kansas City: Next Steps for Sustainability

- Participating Hospitals
  - Work to extend project to ensure CLABSI prevention efforts are happening in all parts of the hospital where central lines are inserted
- Statewide
  - Spread this initiative to help *all* Missouri hospitals to achieve low or zero CLABSI rates

# Cohort 2 Kansas City: Next Steps for Sustainability

## **CLABSI prevention isn't finished!**

Patient safety, and accountability via public reporting, make continued reduction of CLABSI rates a long term priority for everyone