



NCABSI

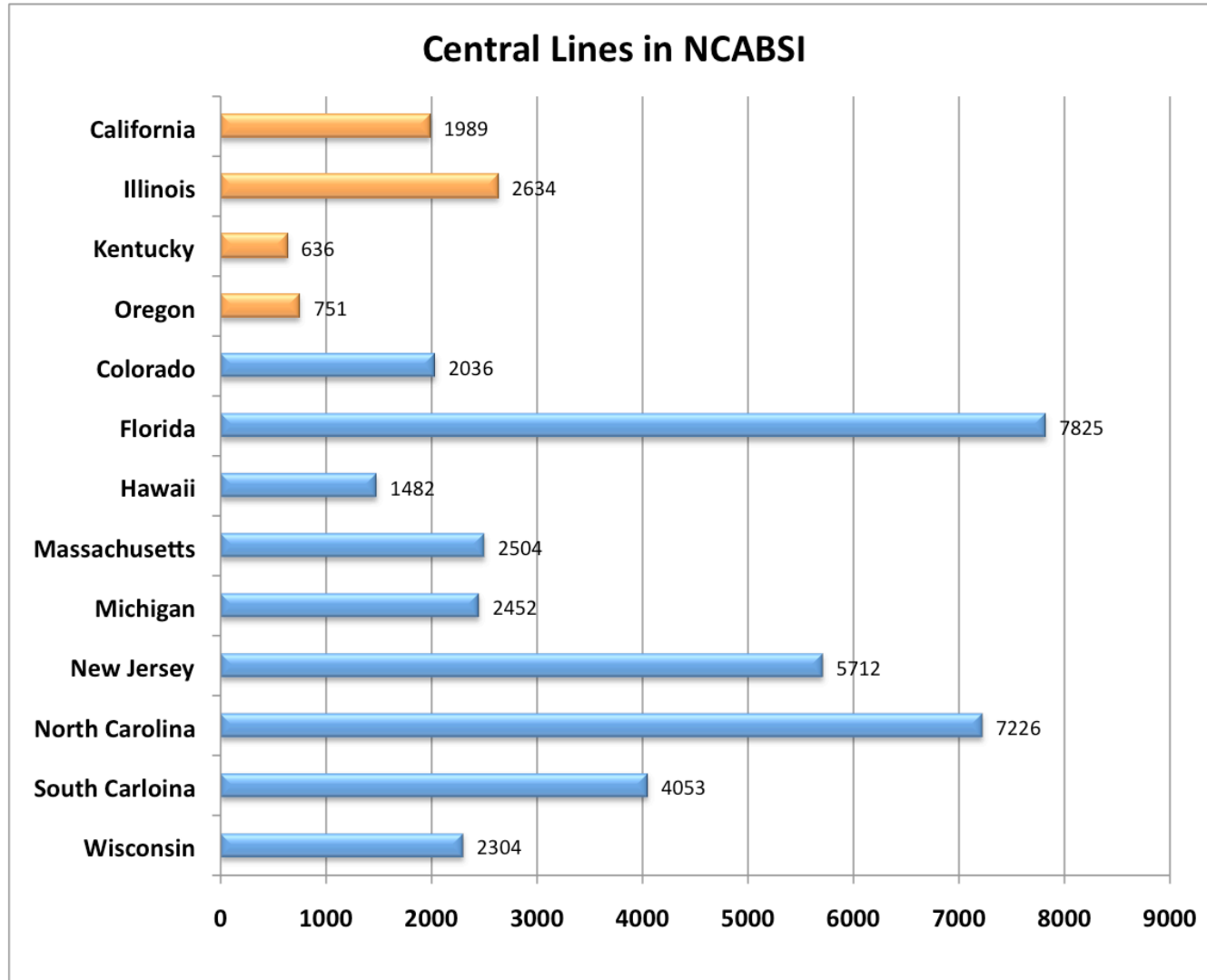
**Where we were, where we've come and
where we're going**

Florida Perinatal Quality Collaborative
Neonatal Focused Meeting
September 27, 2013

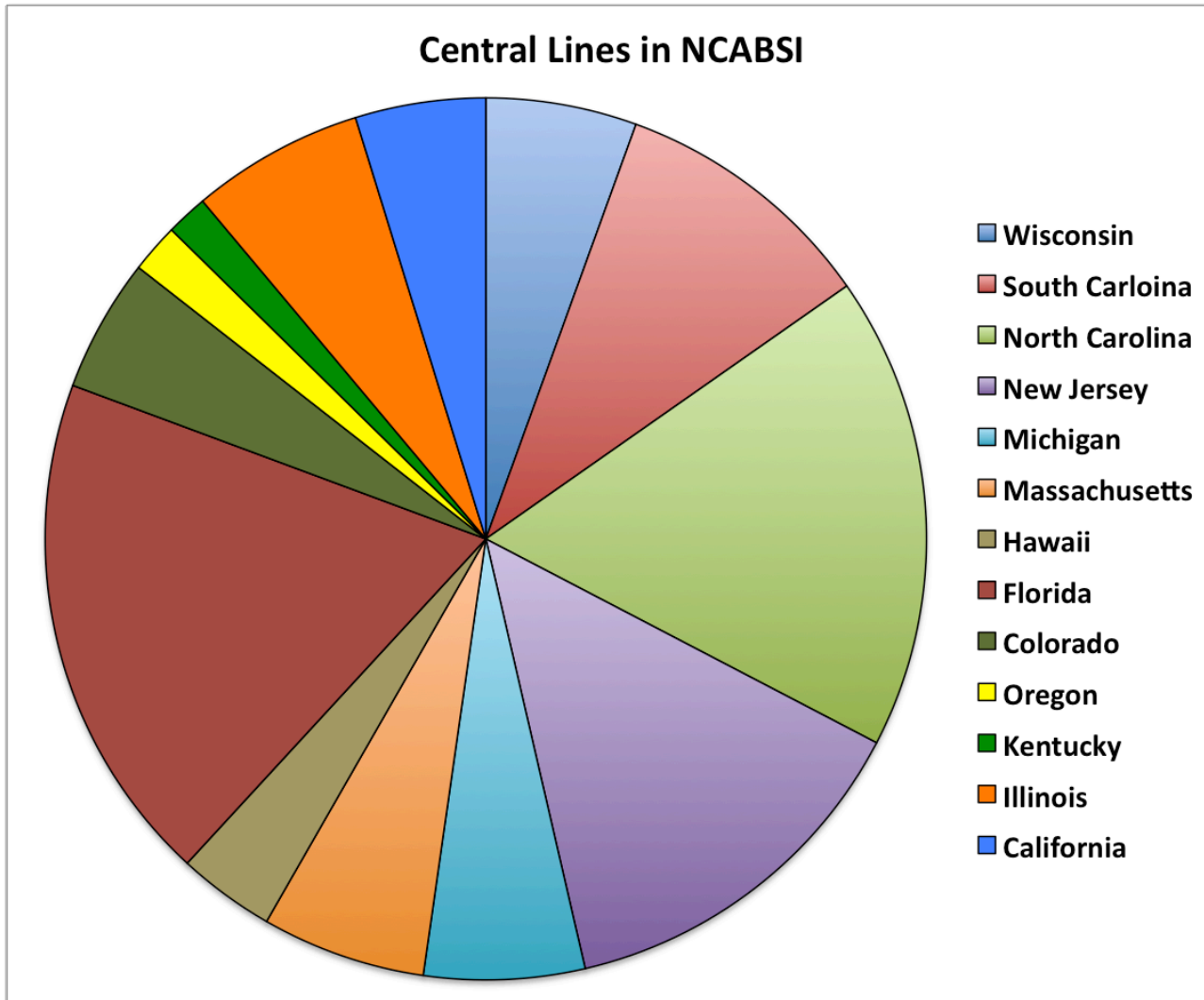
NCABSI statistics to date

- ❖ Now over 150 NICUs in 13 states
 - Florida had 16 centers participating in phase I
 - 5 centers did not submit data for phase II
- ❖ Over 40,000 central lines combined
 - Florida contributed over 7800
- ❖ Over 376,000 line days combined
 - Florida contributed over 86,000

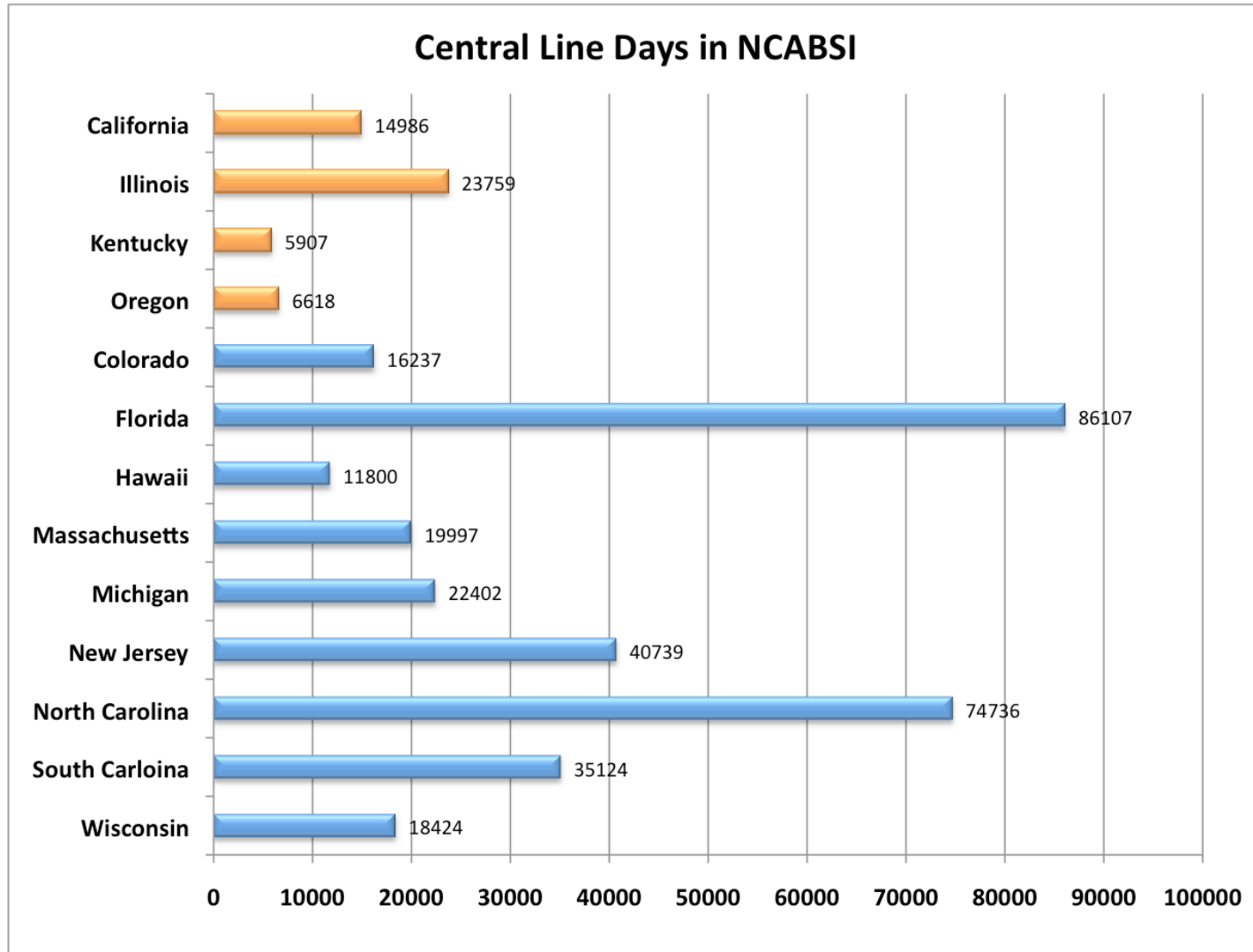
Lines by State



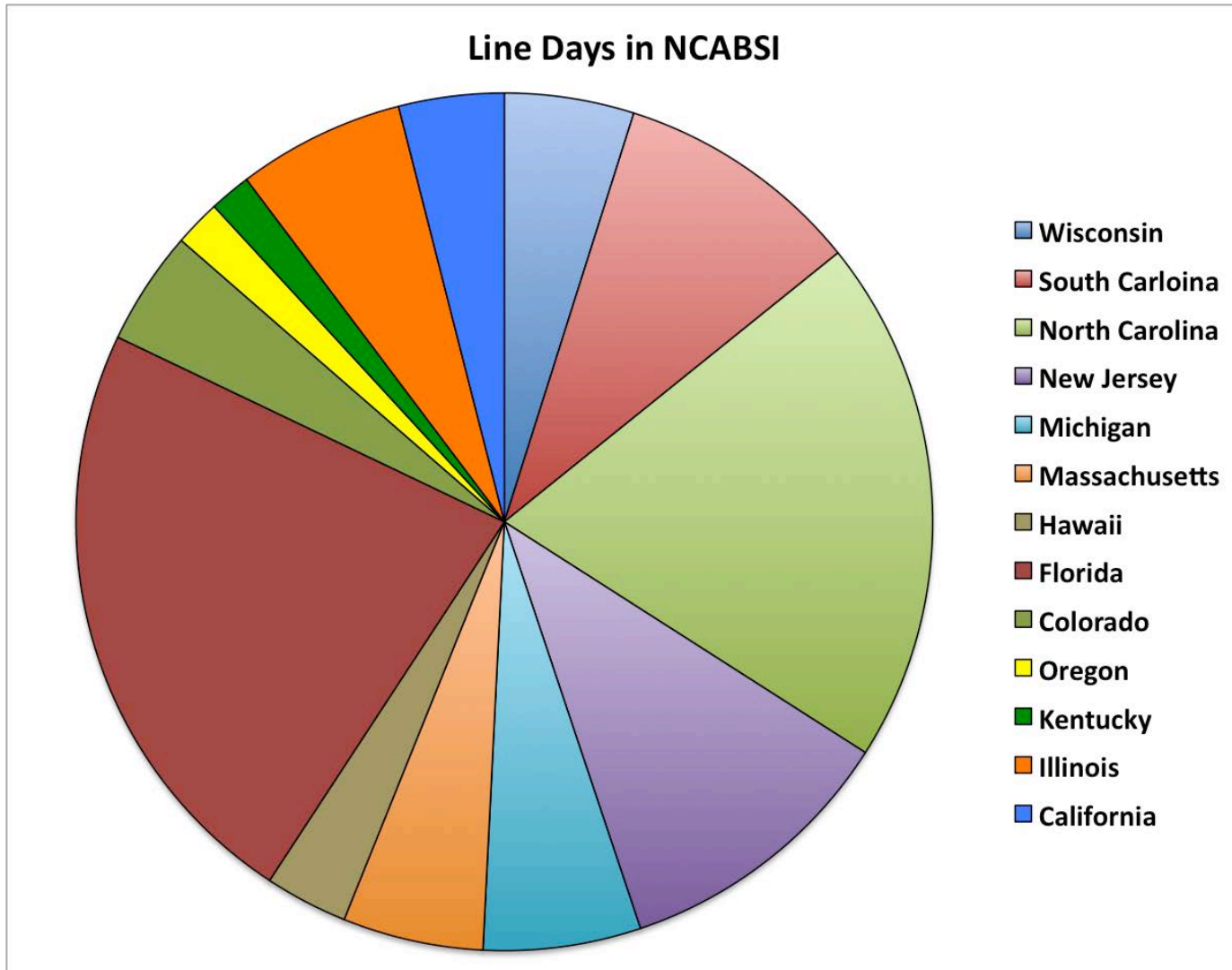
Lines by State



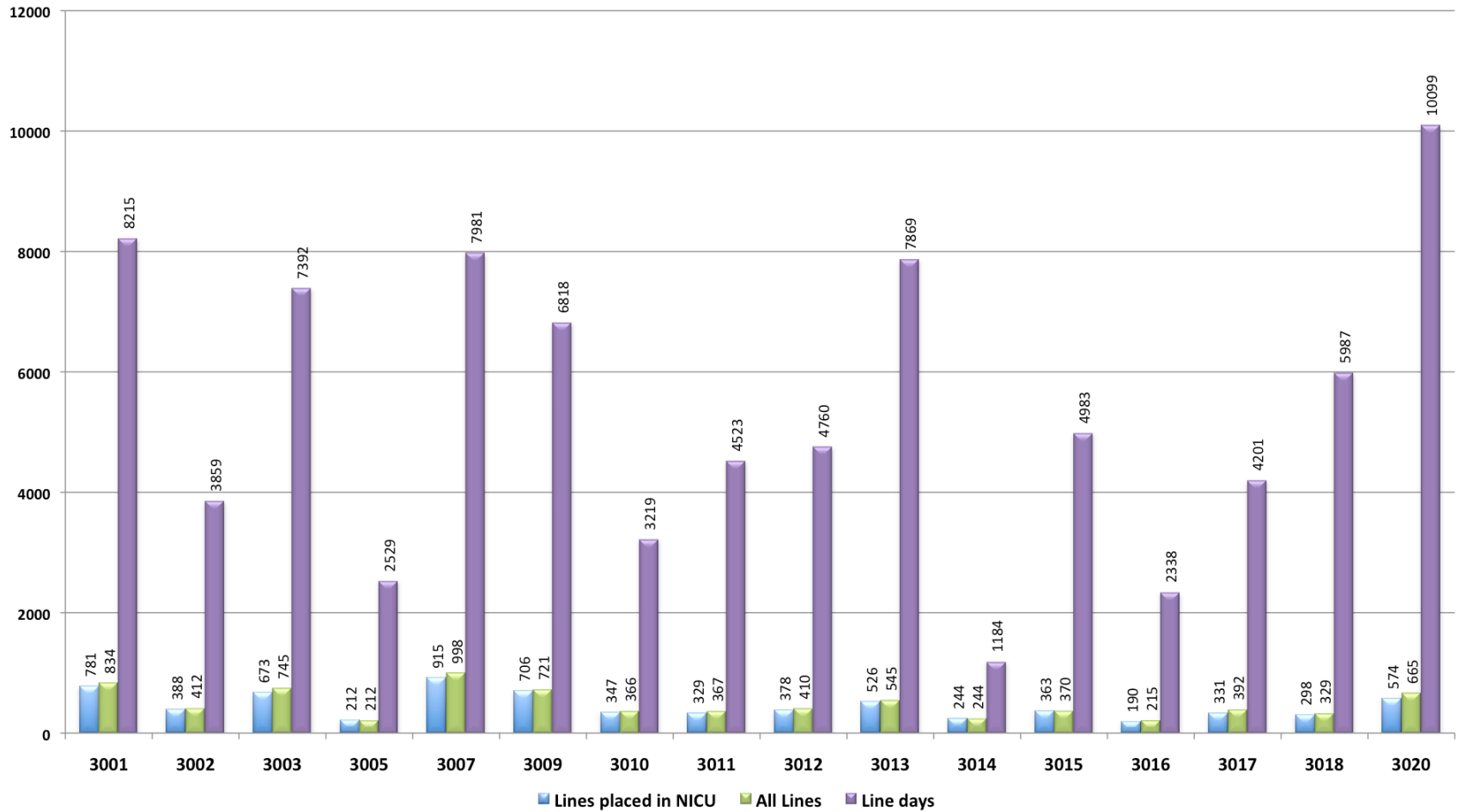
Line Days by State



Line Days by State



Florida NCABSI Lines and Line Days by Center



Data as of August 31, 2013

Where We Started

- ❖ Individual hospitals tracked their own data and reported through CDC's National Healthcare Safety Network (NHSN)
- ❖ Rates NOT reported through Vermont Oxford Network (VON)
- ❖ No comprehensive statewide plans for infection reduction
- ❖ National collaboratives combined had a baseline of 2.51 infections per 1000 line days
- ❖ Baseline rate in Florida from NHSN data was 2.96 infections per 1000 line days

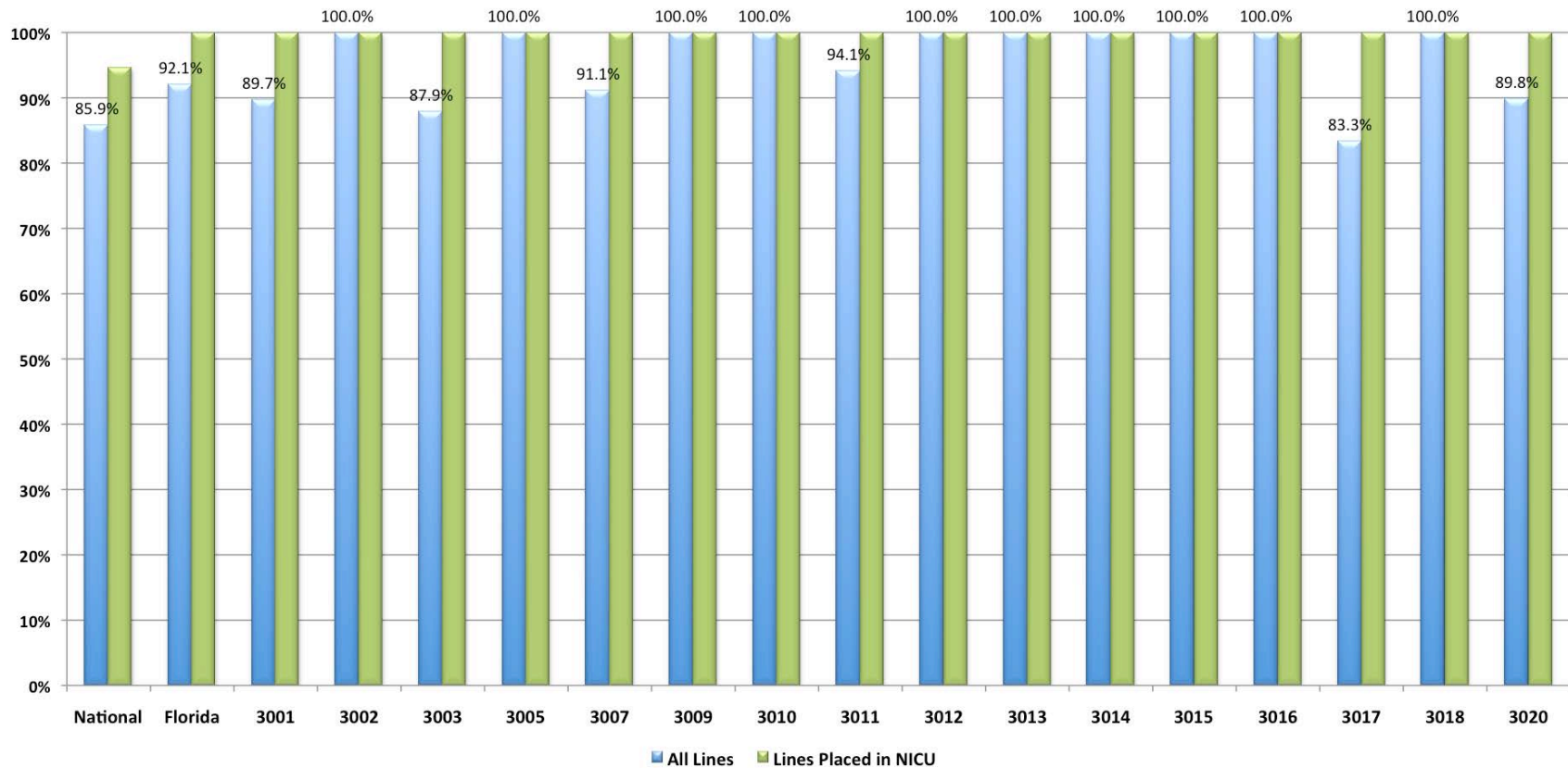
Where We Were

	National	Florida
Central line days	376,630	86,107
Baseline CLABSI rate	2.51 / 1000 line days	2.96 / 1000 line days
Expected CLABSIs	945	255
Expected deaths	116	31
Increased length of stay	7563	2039
Costs due to CLABSI	\$50,103,089	\$13,508,466

Based on baseline CLABSI rates from NHSN reporting over 6 months prior to NCABSI start. Mortality rate 12.3%, increased length of stay of 8 days and estimated average cost of \$53,000 per infection.

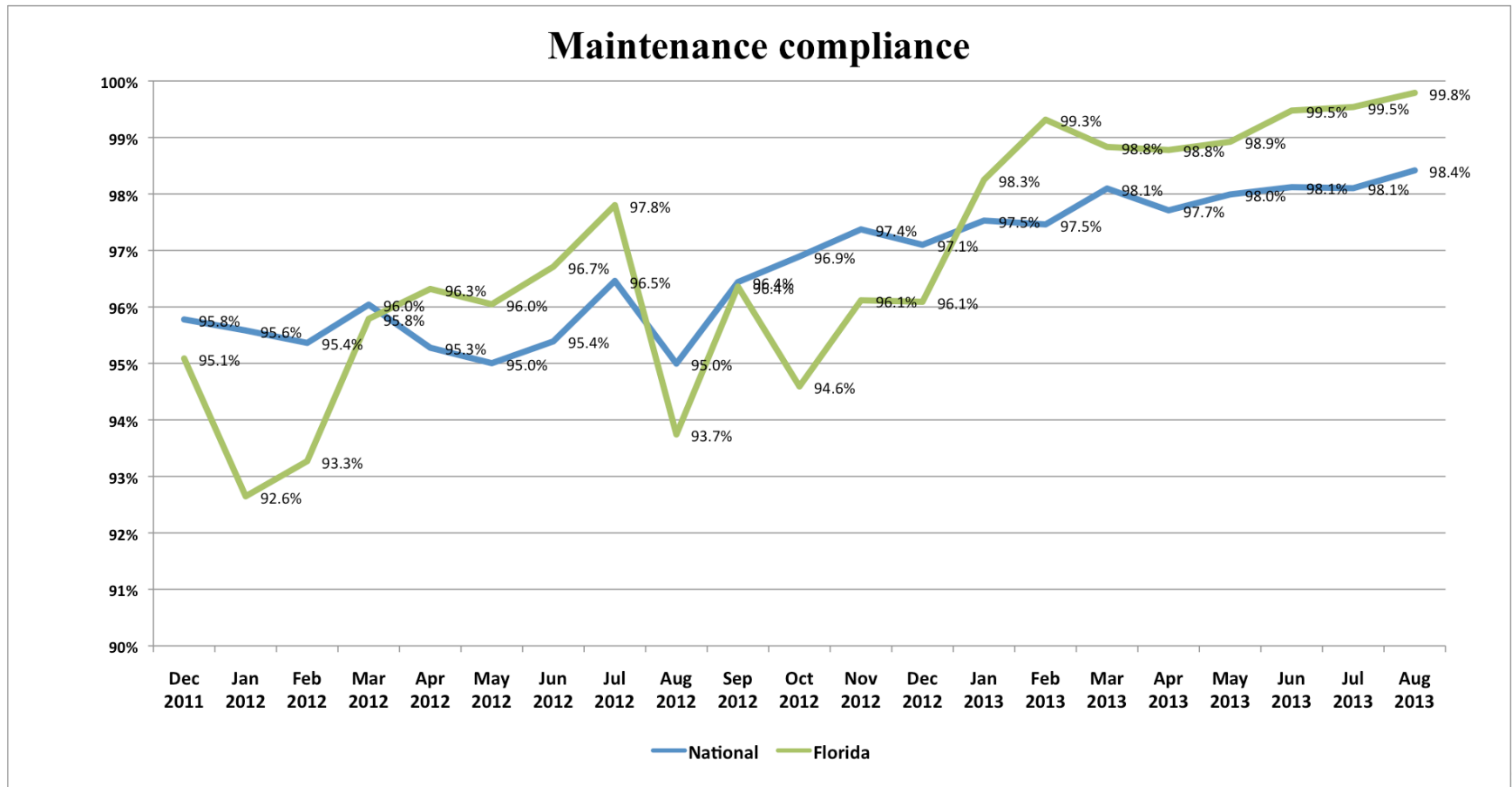
Insertion Compliance

Most Recent Insertion Compliance

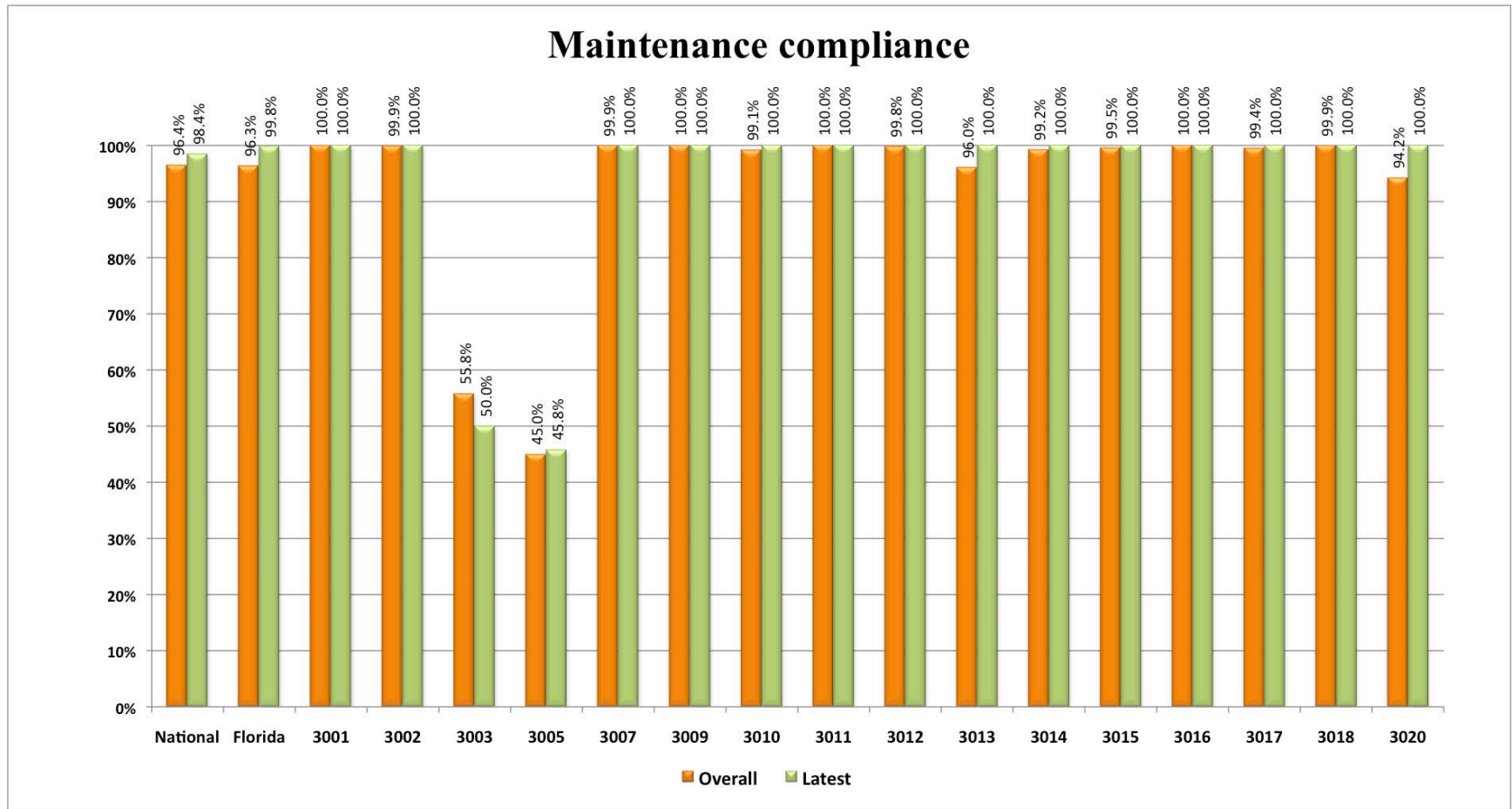


Data as of August 31, 2013

Maintenance Compliance



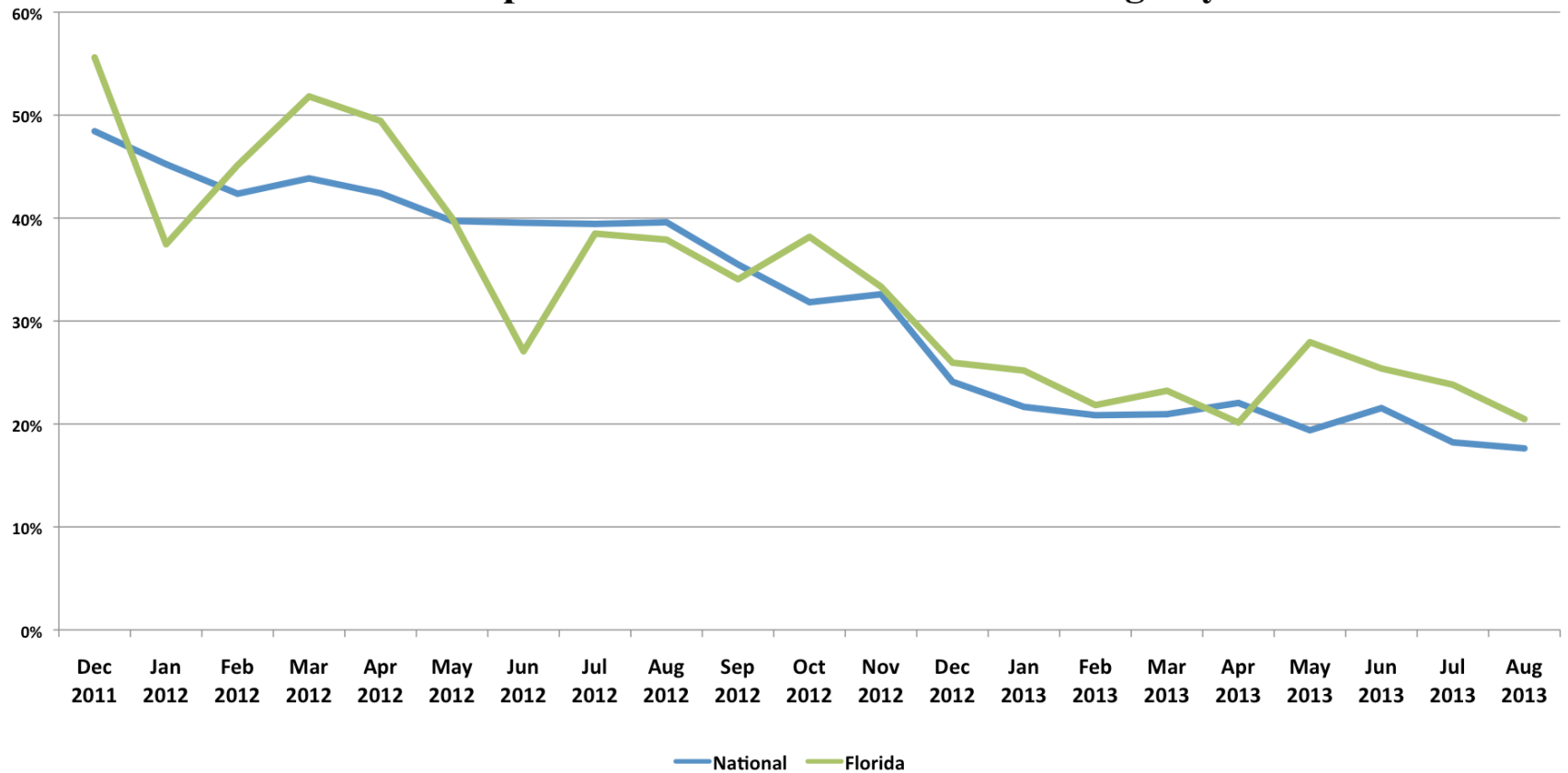
Maintenance Compliance by Center



Data as of August 31, 2013

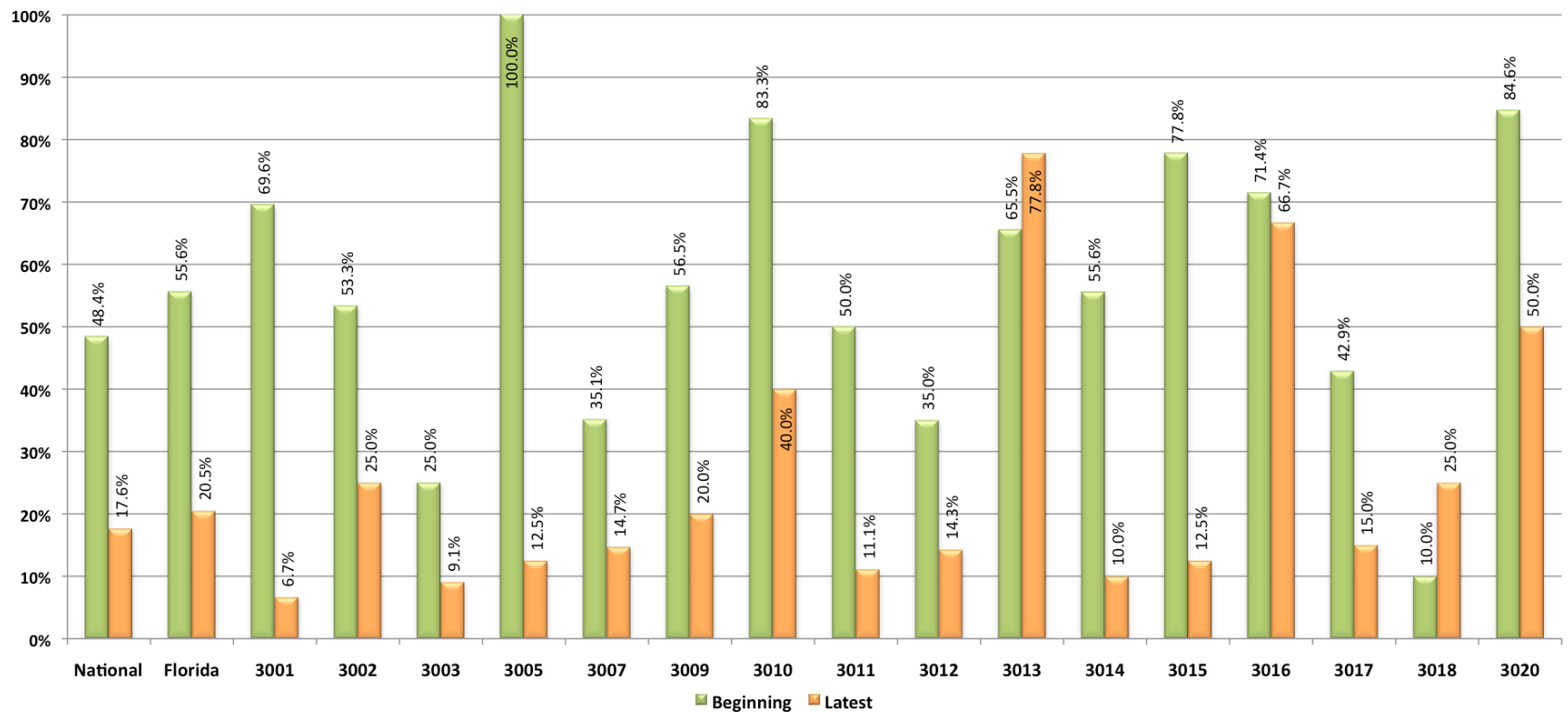
Aggressive Line Removal

Lines in place with enteral feeds > 120 ml/kg/day



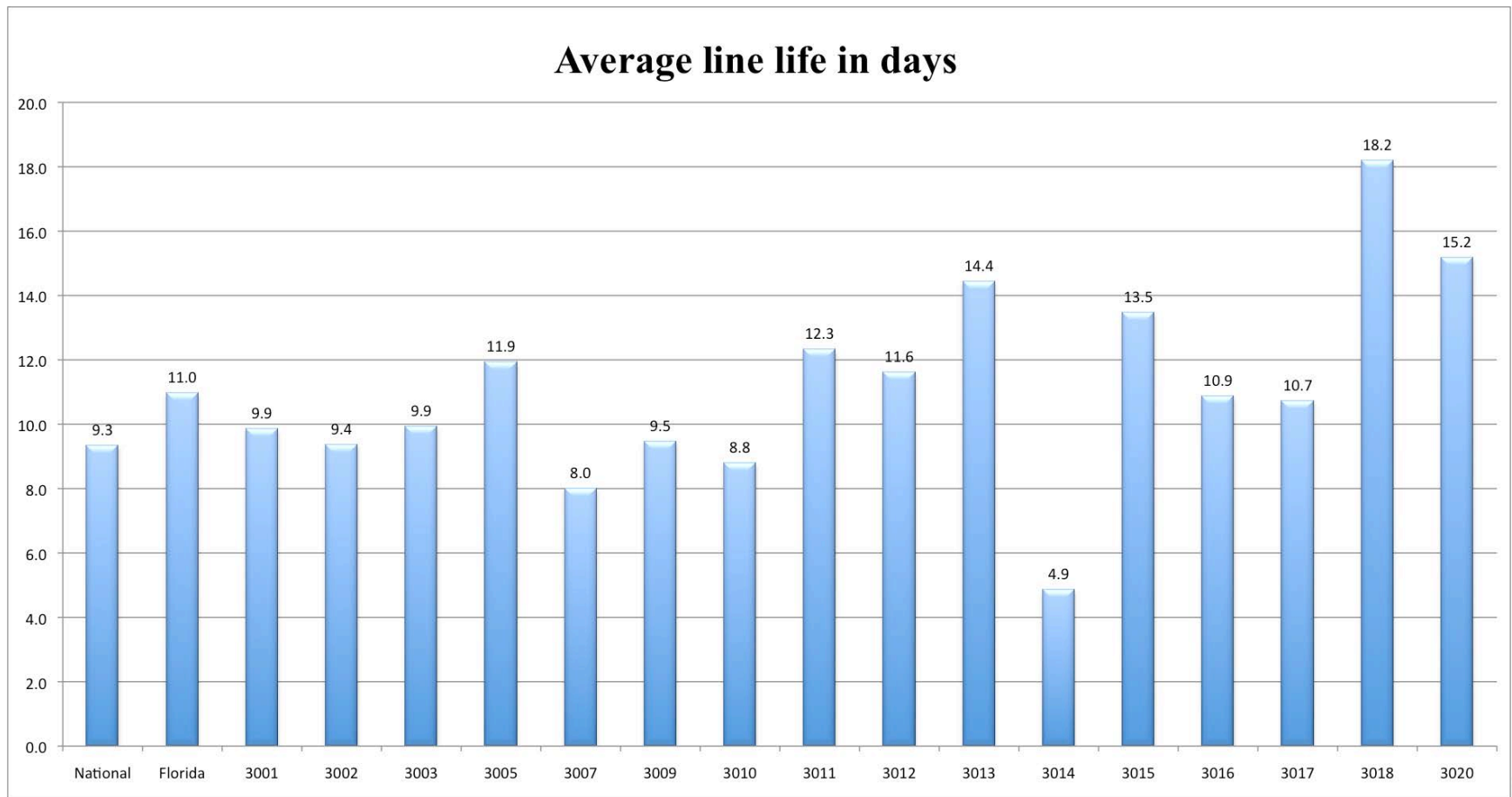
Florida Center to Center Variation

Lines in place with enteral feeds > 120 ml/kg/day



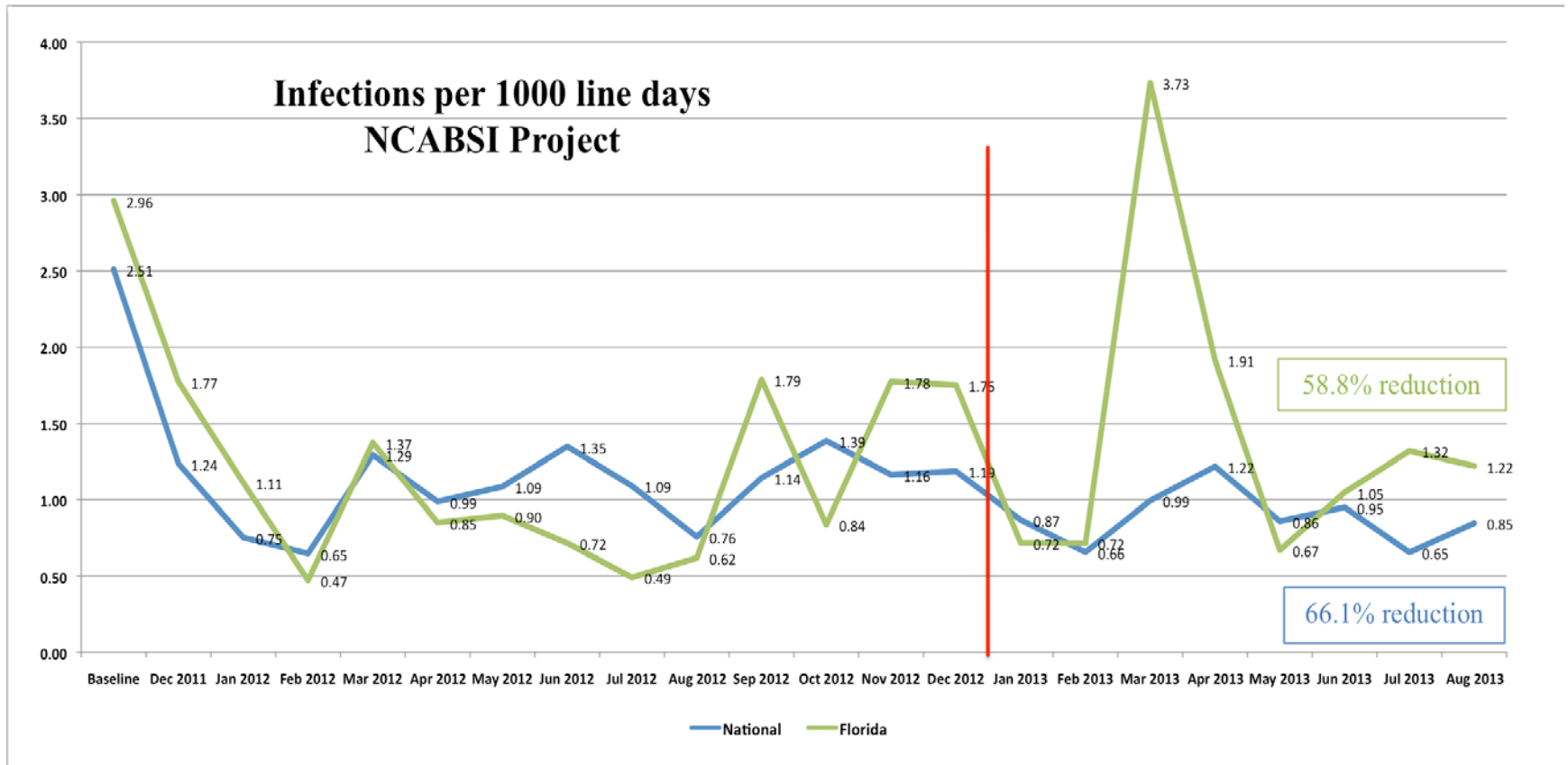
Data as of August 31, 2013

Variation among Florida Centers

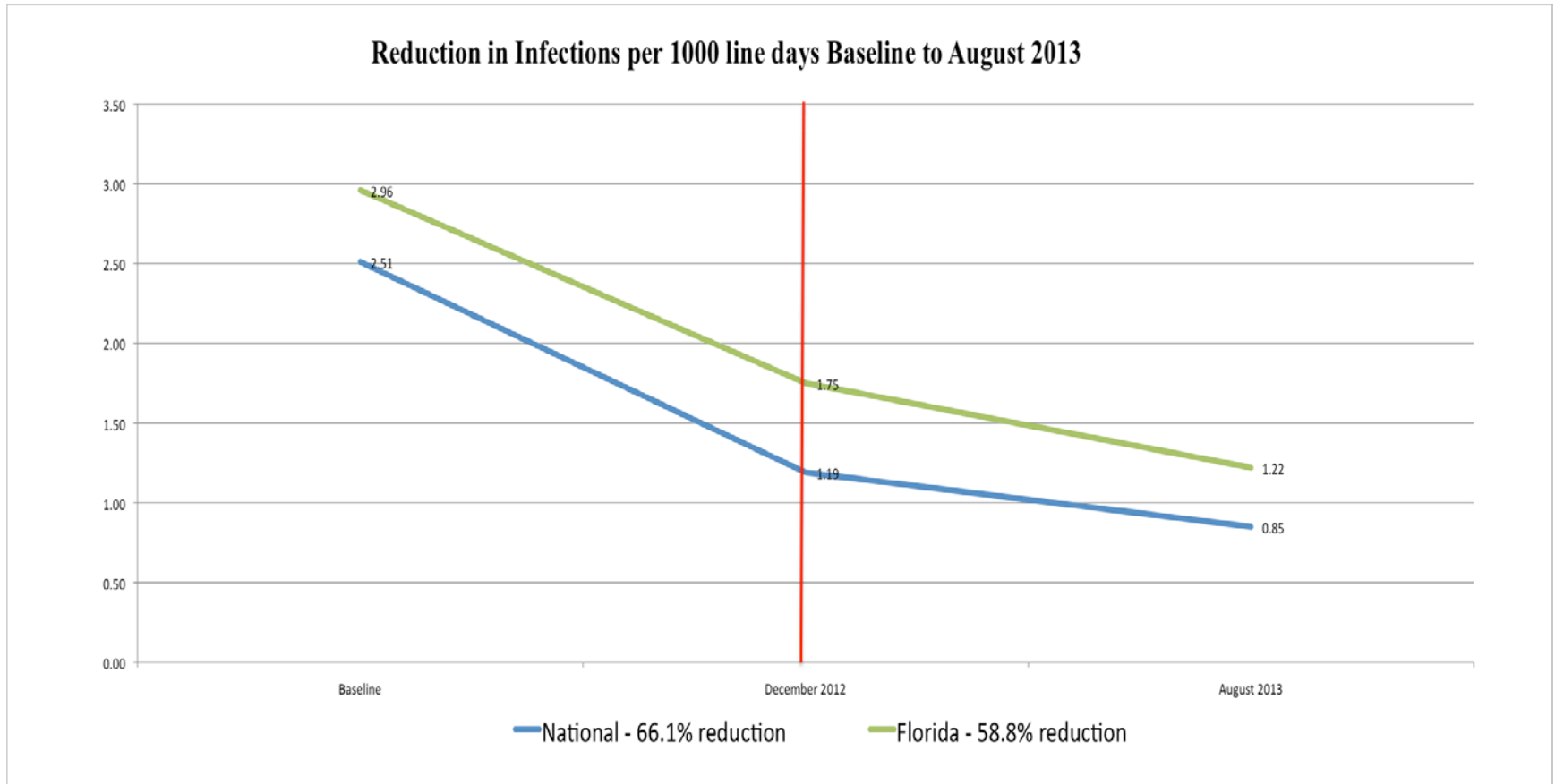


Data as of August 31, 2013

Infection Rates



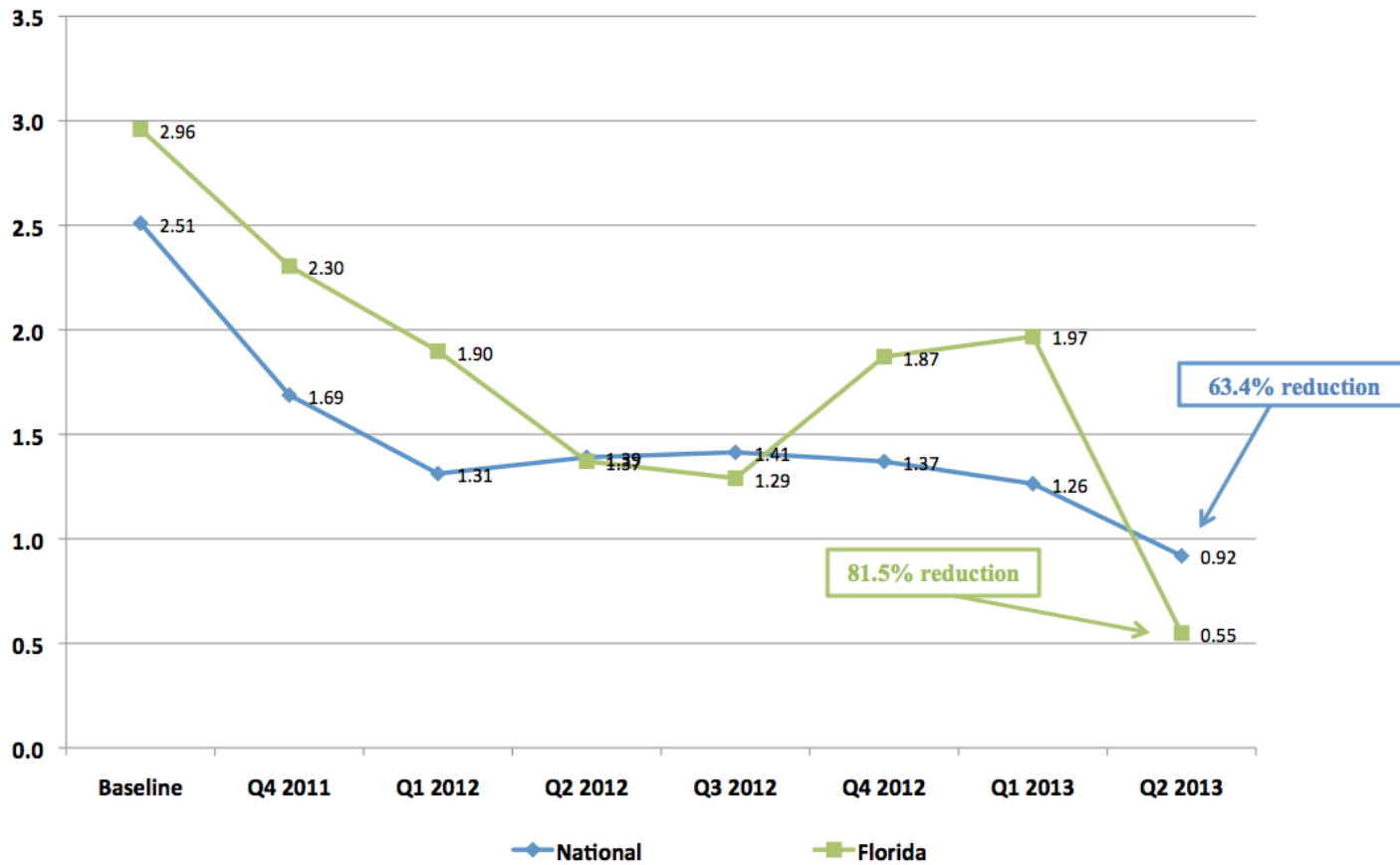
Rate Reduction to Date



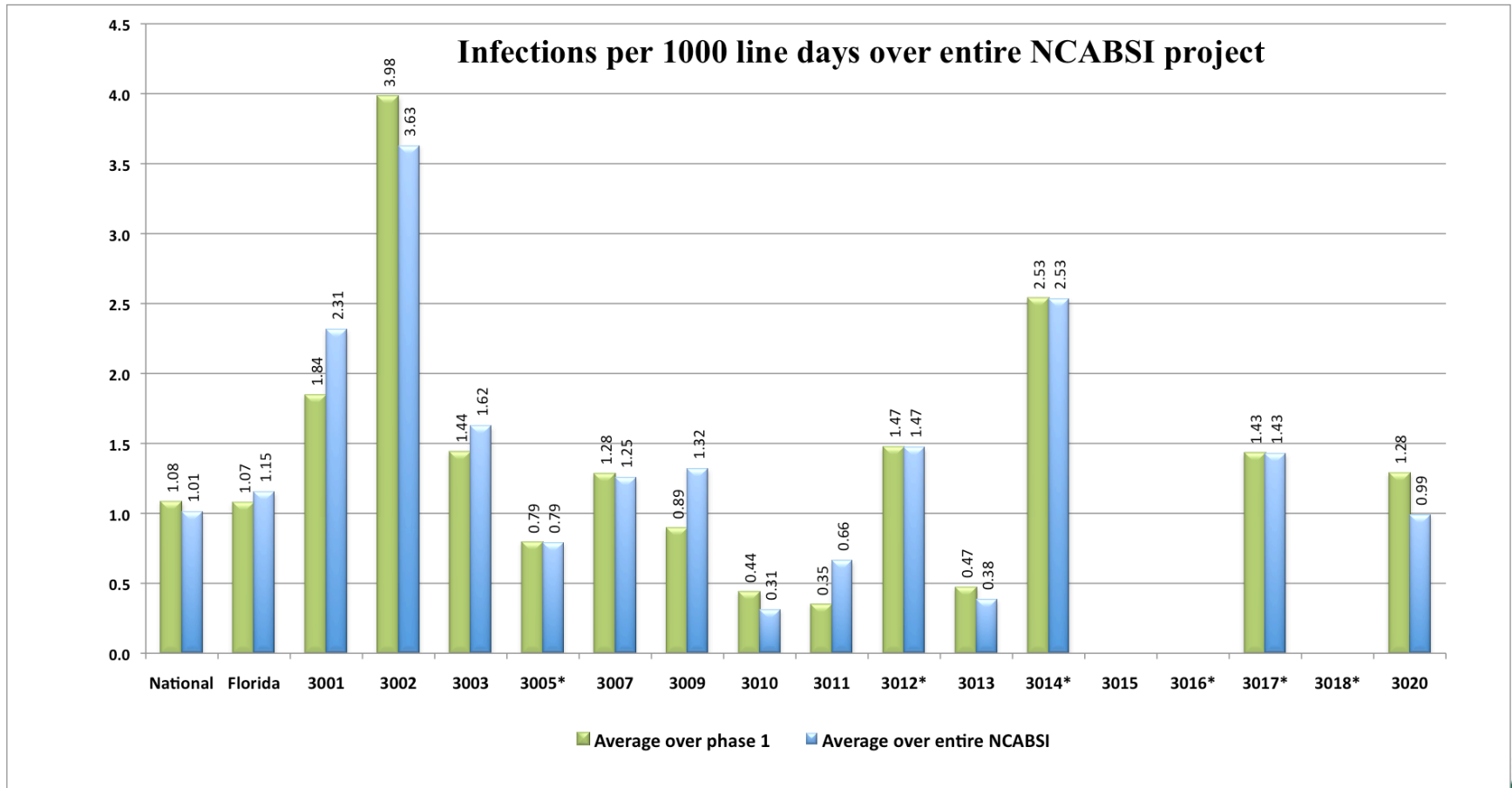
By end of phase 1, reduction in National rate was 52.6% and in Florida rate was 40.9%

NHSN Quarterly Reporting

NHSN Data by Quarter - combined umbilical and central line



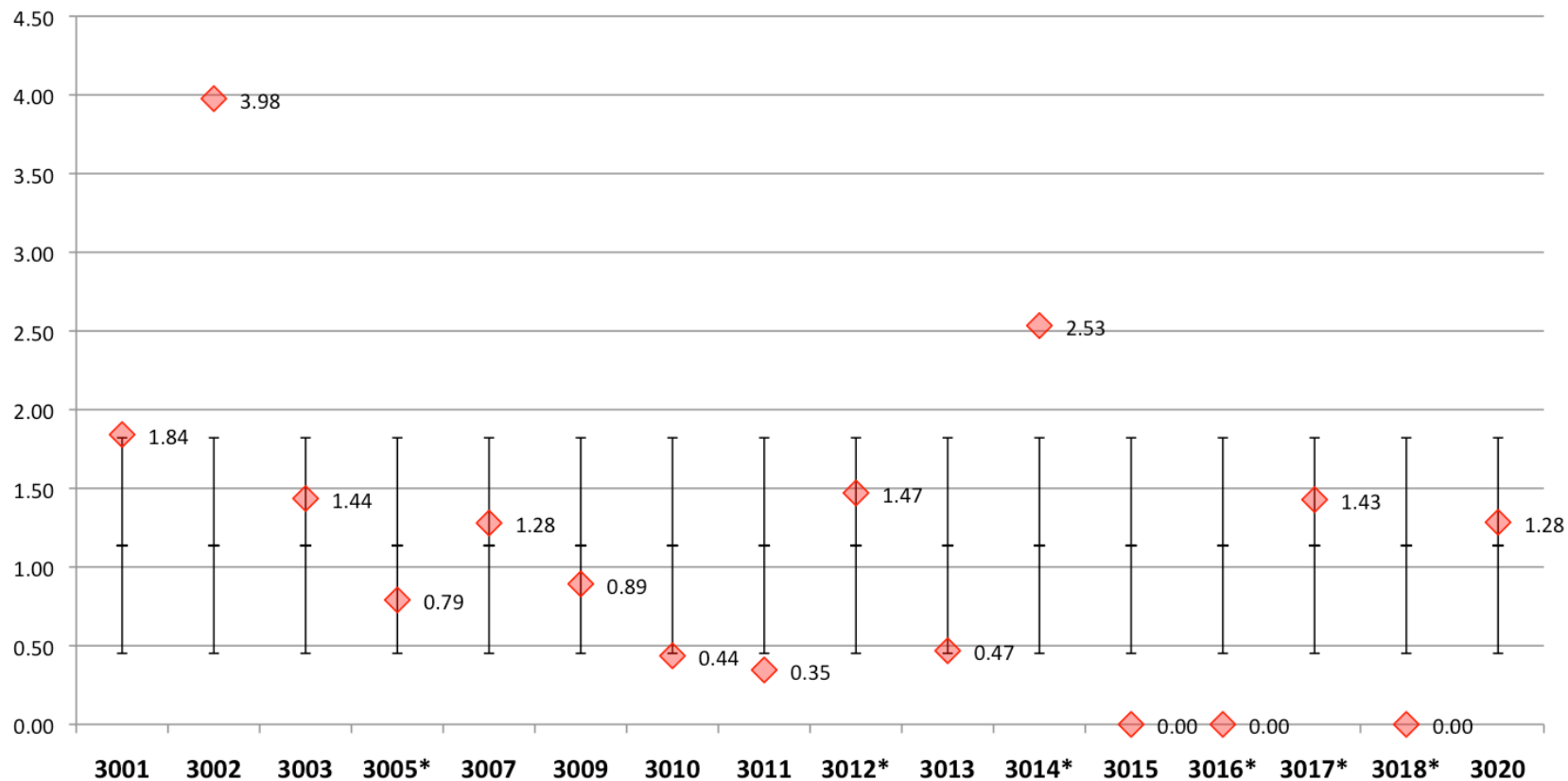
Individual Rates by Phase



Data as of August 31, 2013

Phase 1 quartiles

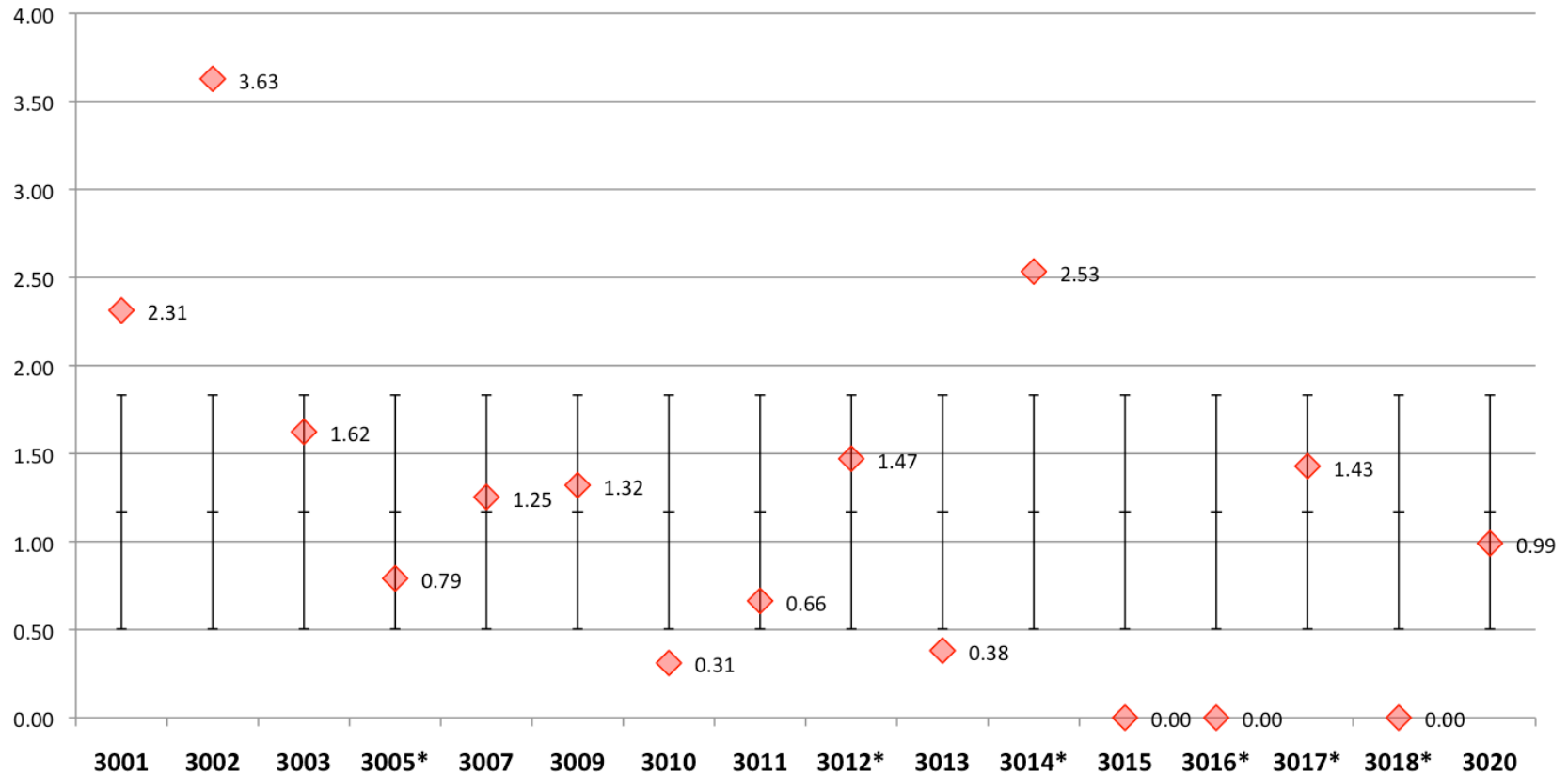
Infections per 1000 line days - phase 1
Quartile rankings



Data as of August 31, 2013

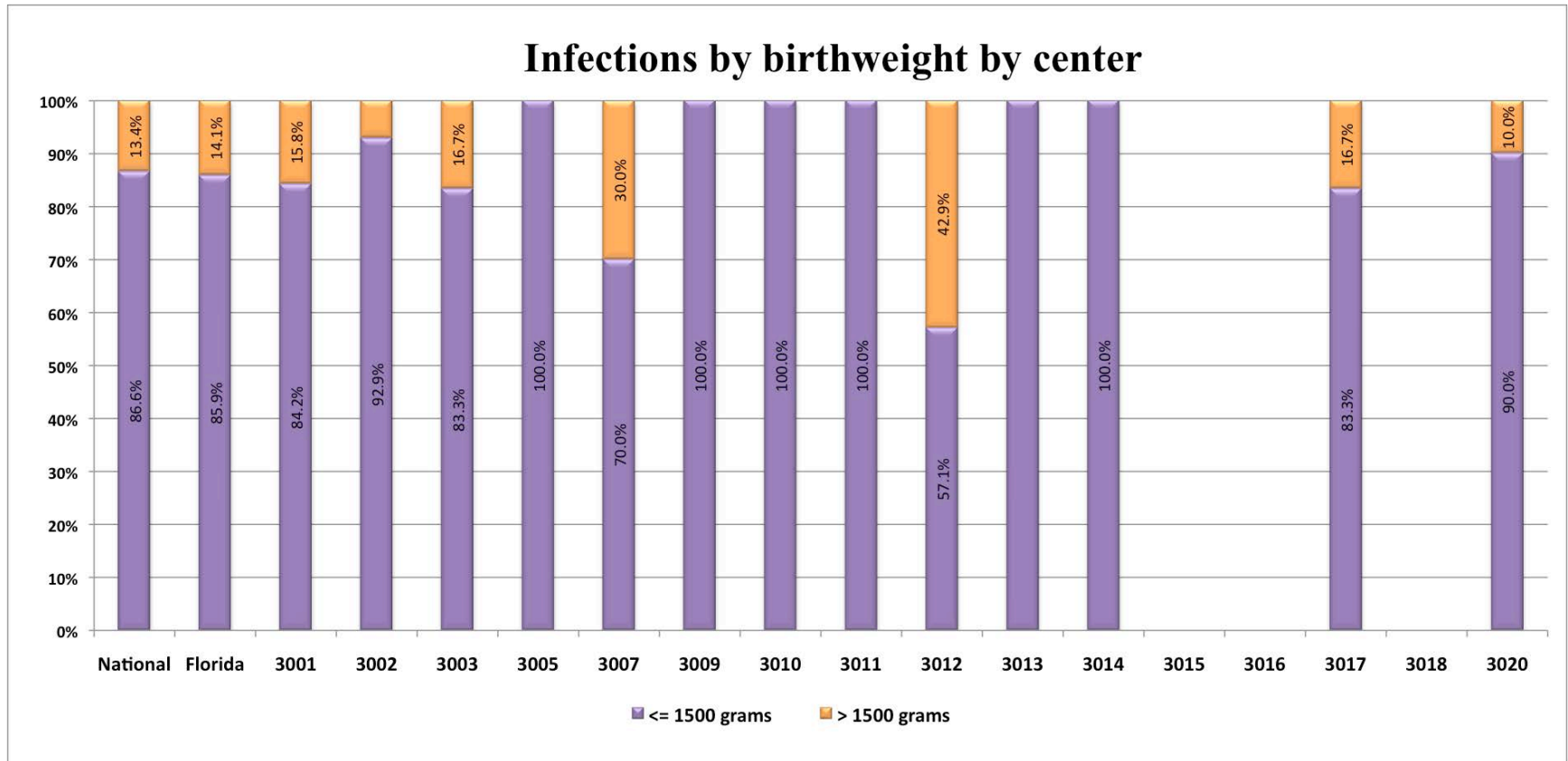
Cumulative quartiles

Infections per 1000 line days - cumulative Quartile rankings



Data as of August 31, 2013

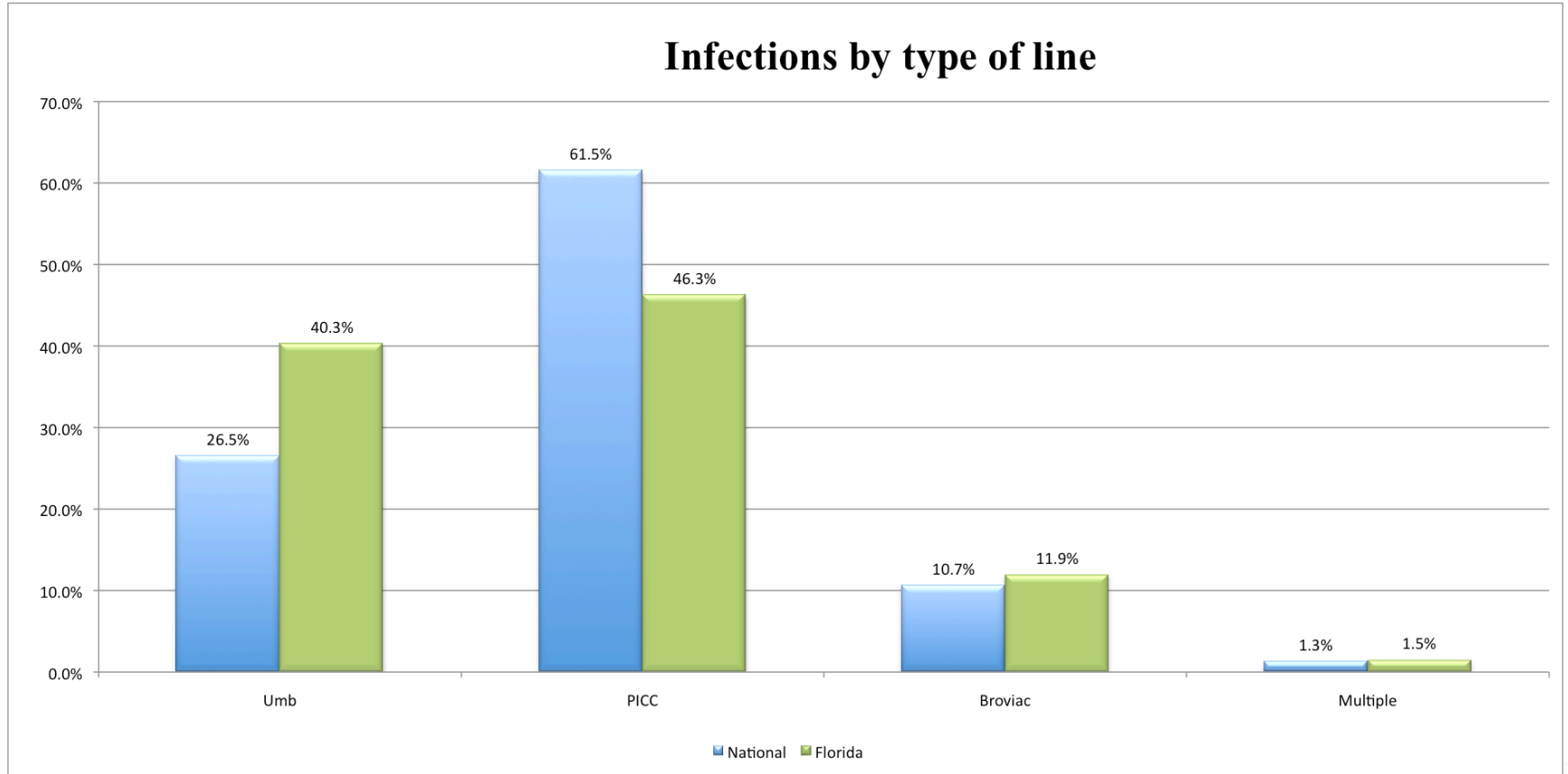
Predilection for VLBW Babies



Data as of August 31, 2013

Catheter Type – Phase 1

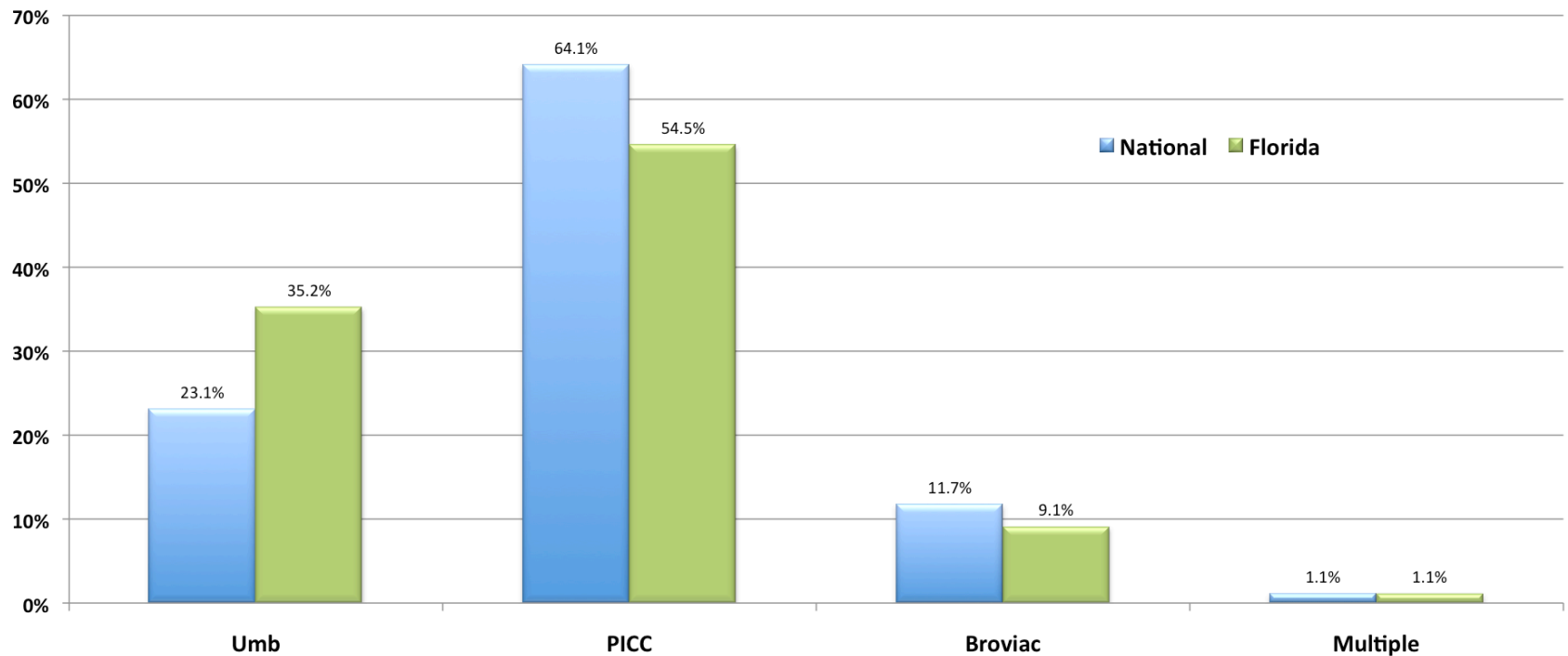
Infections by type of line



Data as of February 28, 2013

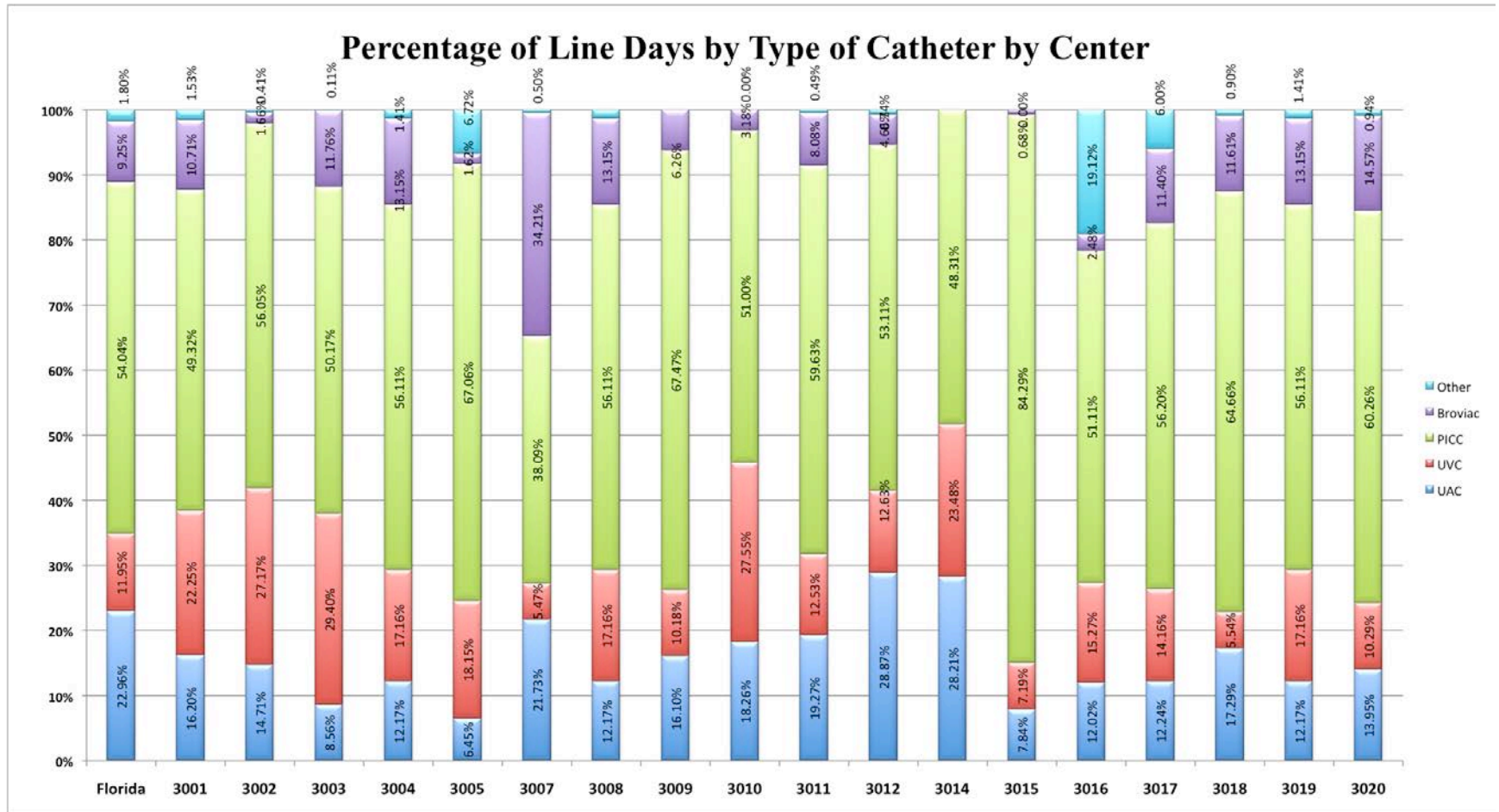
Catheter Type – Entire Project

Infections by type of line



Data as of August 31, 2013

Line Days Attributable to Each Type



Data as of August 31, 2013

Where We've Come

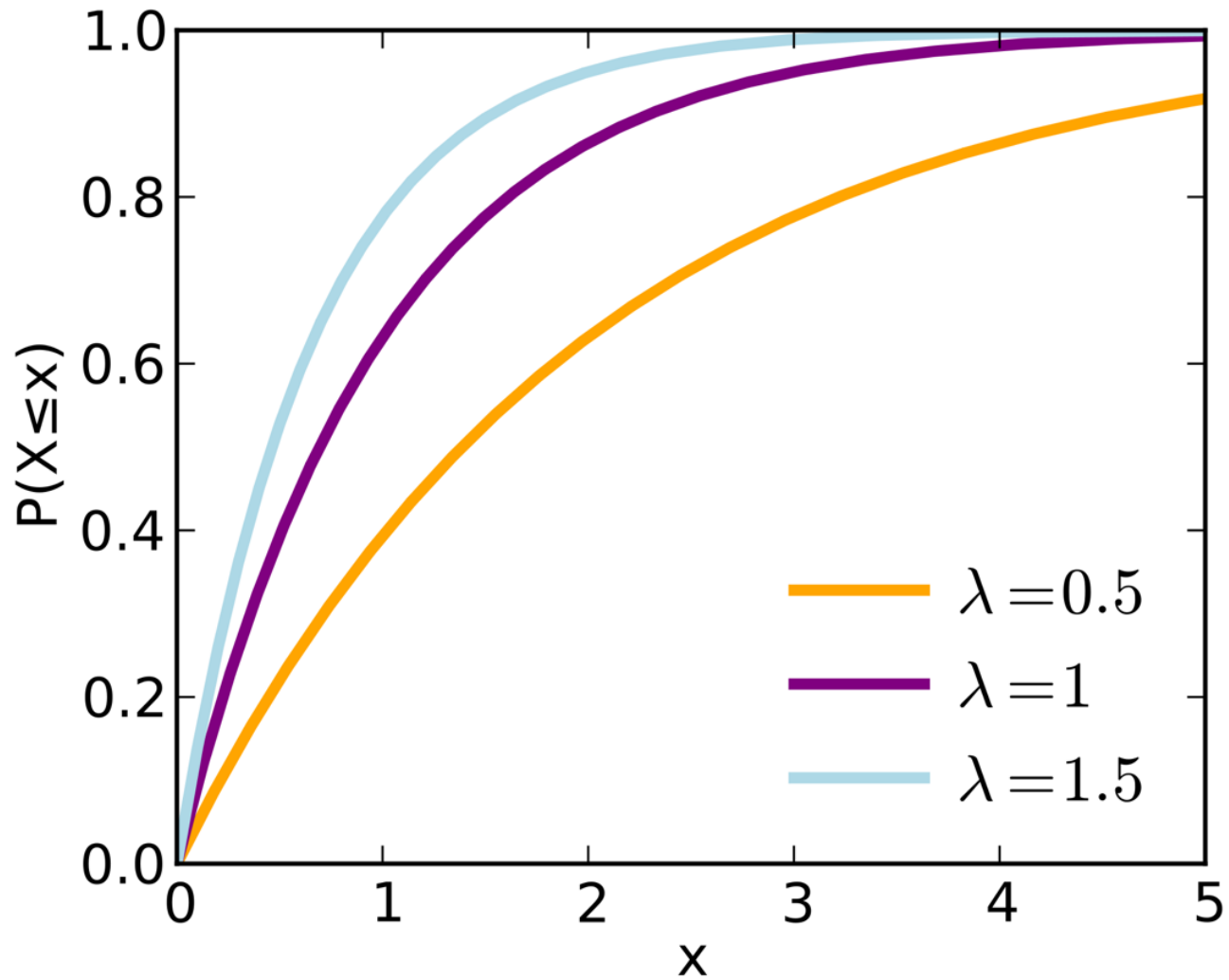
	National	Florida
Central line days	376,630	86,107
Current CLABSI rate	0.85 / 1000 line days	1.22 / 1000 line days
CLABSIs avoided	625	150
Deaths avoided	77 babies	18 babies
Length of stay reduced	5002 days	1199 days
Cost savings	\$33,135,907	\$7,940,788

Based on current CLABSI rates as of August 2013. Mortality rate 12.3%, increased length of stay of 8 days and estimated average cost of \$53,000 per infection.

Where We're Going

- ❖ Analysis of data on dwell times
 - Hazard functions
 - Individualized risks for each line type in your own unit
- ❖ Other indicators of infection burden
 - Nosocomial infection (VON)
 - Late infection (VON)
 - Staph infection (VON)
 - Antibiotic use (EMR)
- ❖ Antibiotic stewardship

Hazard Functions





Vermont Oxford Network as a source of QI data

The good, the bad and the ugly



The Good

- ❖ VON provides standard definitions for many issues to allow consistent benchmarking
- ❖ VON reporting allows comparison to similar
- ❖ VON is an extremely large database, with data from around the world
- ❖ VON supports a number of QI initiatives annually in their NICQ homerooms
- ❖ Comparison of individual data to a larger group, such as a state collaborative allows strengths and opportunities to be identified

The Bad

- ❖ While there are many standard issues tracked in VON, there are many common neonatal problems that are not, such as CLABSI
- ❖ There is a long lag, up to 9 months or more, before end of year submission and report finalization
 - Too long to be of use for rapid changes in QI work outside of the NICQ projects
- ❖ Data is only entered by many centers for those infants < 1500 grams

The Ugly

❖ VON is expensive!

- This prevents many smaller centers from participating, or limits other centers to collecting data on infants < 1500 grams only
- Participation in NICQ projects can be too costly for many centers
- Analysis over time, or for collaborative groups incurs expenses above the baseline