

Hospital-Acquired Infections Prevention is in Your Hands

Rachel L. Stricof
rstricof@gmail.com

Costs

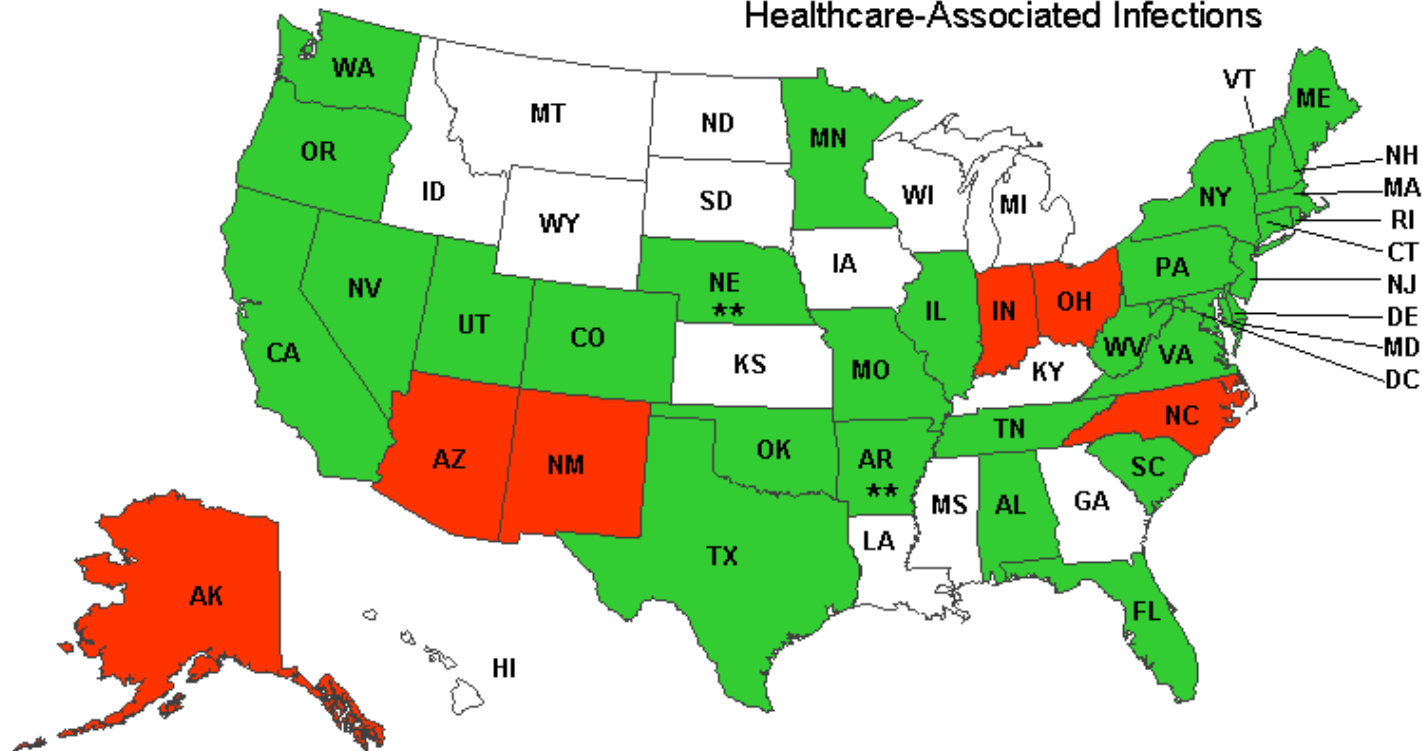
- ◆ Morbidity
 - ◆ 1.7 Million infections per year (estimate 2002)
- ◆ Mortality
 - ◆ 99,000 deaths per year (estimate 2002)
- ◆ Financial
 - ◆ \$28-45 Billion per year (estimate 2007)
- ◆ Personal-Societal Costs

NYS – Public Health Law 2819

- ◆ Consumers Union movement
 - ◆ “Hospital Disclosure Act”
- ◆ Signed by the Governor in July 2005
- ◆ NYS was the 7th state to pass public reporting legislation
- ◆ Initial requirements
 - ◆ CLABSIs in ICUs
 - ◆ Select SSIs

HAI Reporting Laws and Regulations

States That Have Enacted Laws Relating to Reporting of Healthcare-Associated Infections

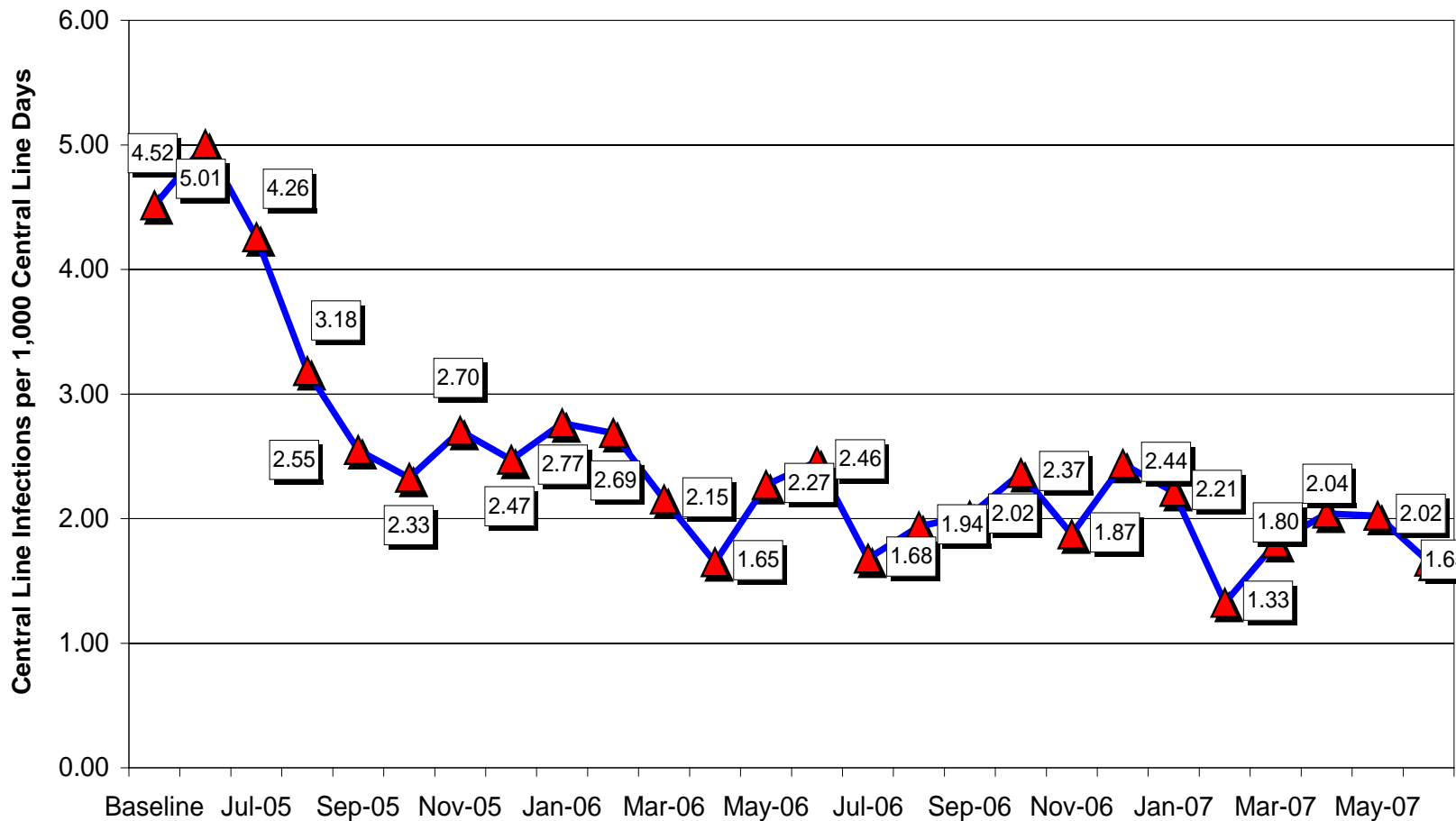


- States with study laws
- Mandates public reporting of infection rates
- ** Voluntary

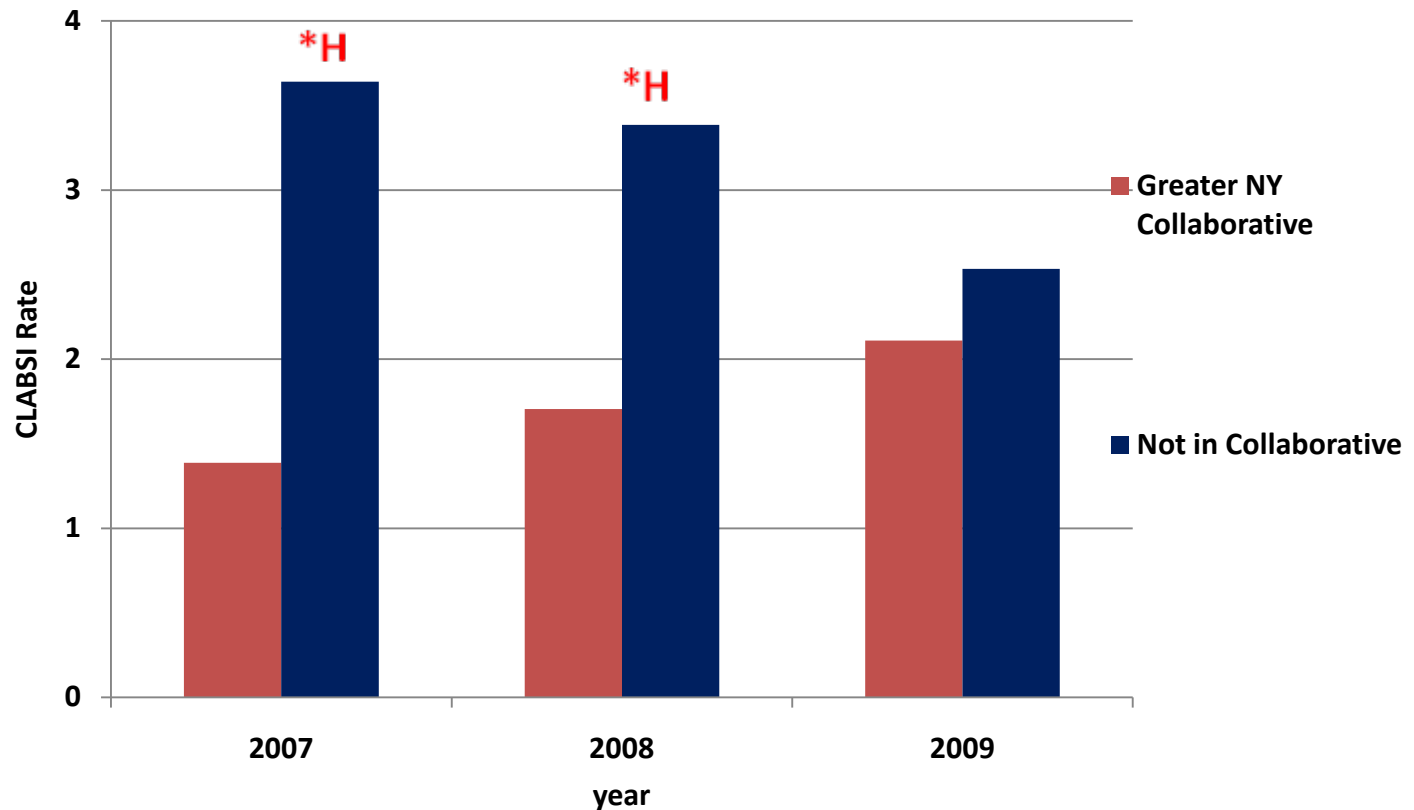
CLABSI Prevention Collaborative

- ◆ Initially driven by pending legislation for mandatory, public reporting of HAI rates
- ◆ Greater New York Hospital Association and United Hospital Fund
 - ◆ Commitment from CEOs
 - ◆ Set the framework for collaboration
 - ◆ Between health care facilities
 - ◆ Between regulatory agency and facilities
 - ◆ Organizational skills and resources of hospital association

Monthly ICU Central Line Infection Rates for Hospitals Participating in the GNYHA/UHF CLABS Quality Improvement Collaborative Round 1 Hospitals



Central Line-Associated Bloodstream Infection (CLABSI) Rates in New York State Medical Intensive Care Units, compared by participation in Greater New York Collaborative



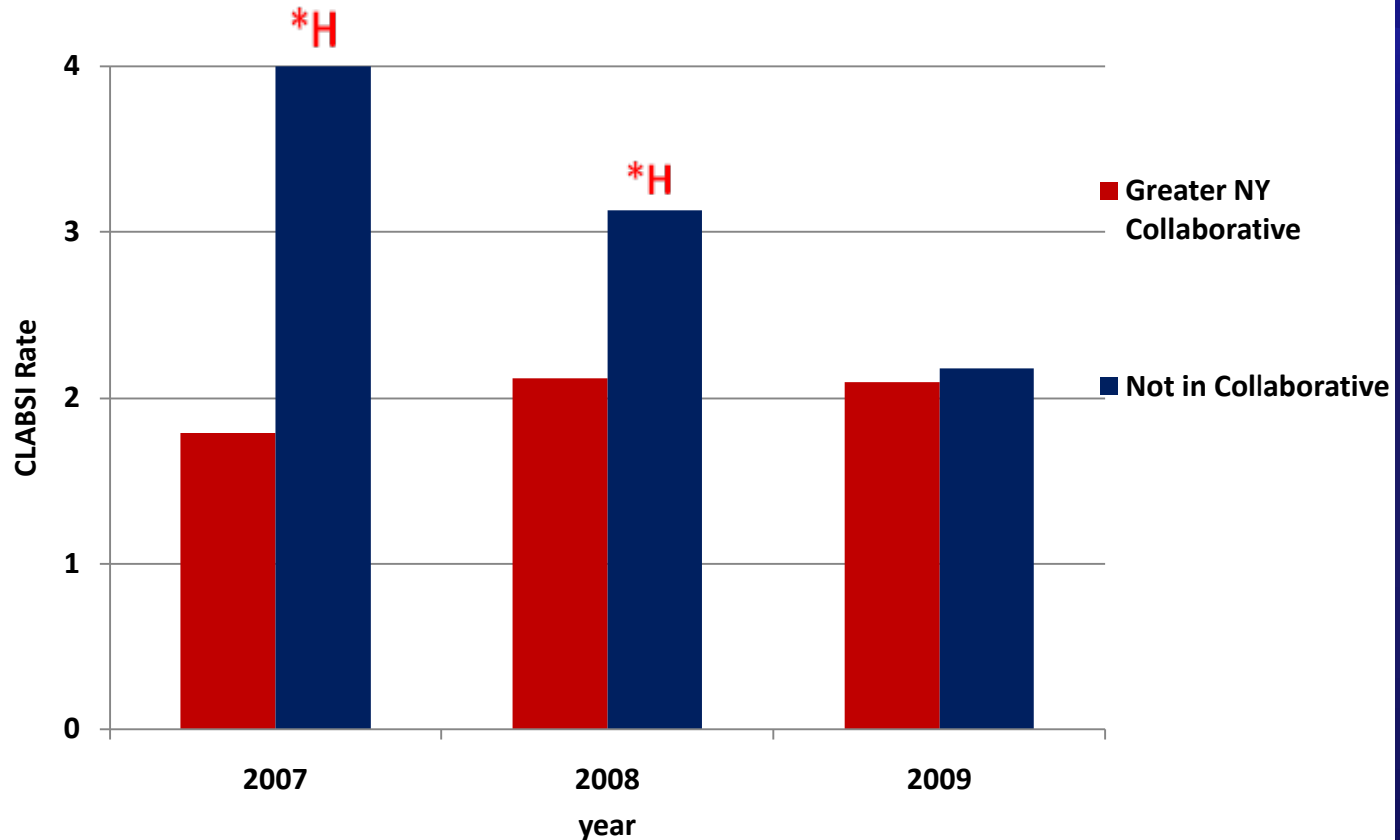
*H significantly higher outside of collaborative

Data as of August 25, 2010. Hospitals with any missing data were excluded.

Increase in CLABSI rate for 13 hospitals in collaborative (p=.03)

Decrease in CLABSI rate for 28 hospitals outside of collaborative (p=0.002)

Central Line-Associated Bloodstream Infection (CLABSI) Rates in New York State Surgical Intensive Care Units, compared by participation in Greater New York Collaborative



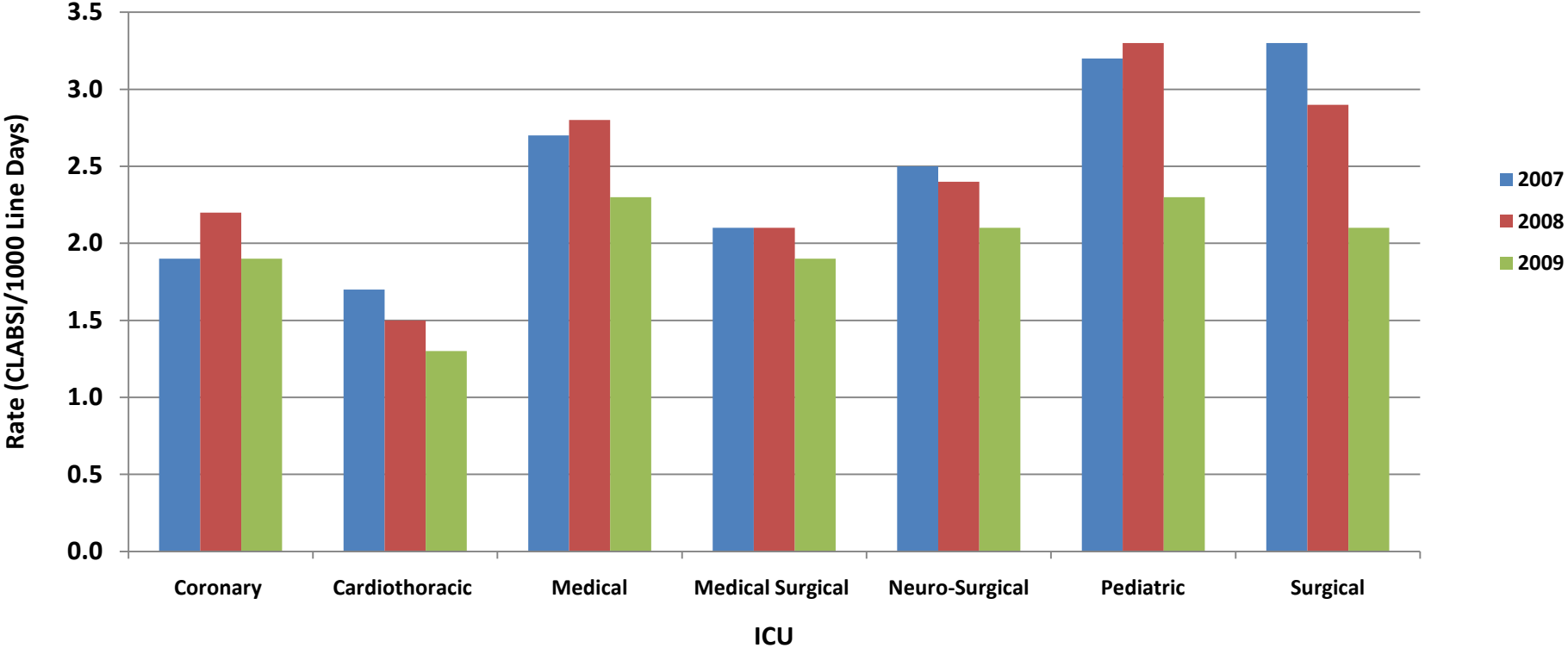
*H significantly higher outside of collaborative

Data as of August 25, 2010. Hospitals with any missing data were excluded.

No change in CLABSI rate for 11 hospitals in collaborative

Decrease in CLABSI rate for 25 hospitals outside of collaborative ($p < 0.0001$)

Central Line-Associated Blood Stream Infection Rates by Type of ICU, New York State, 2007-2009

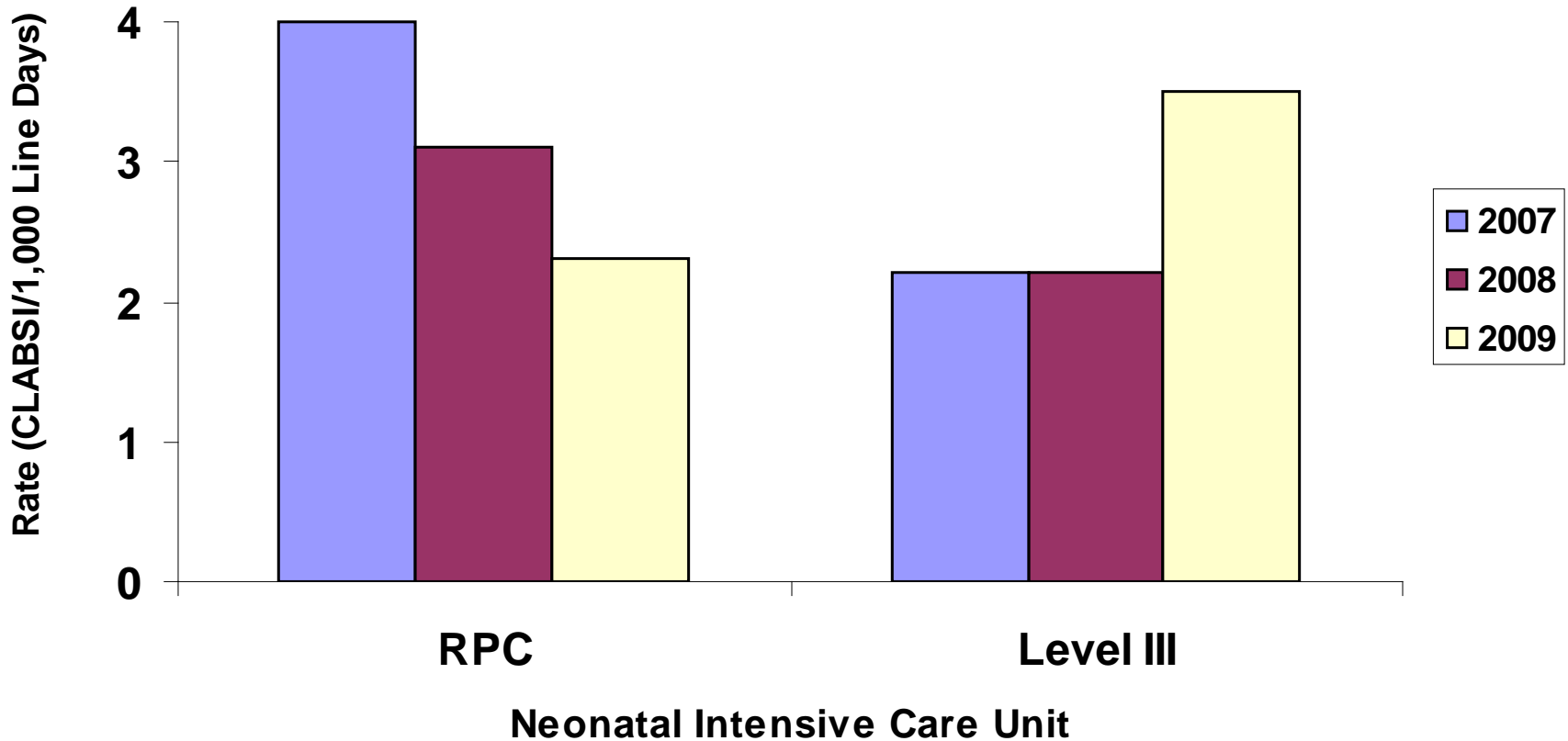


Trends in Central Line-Associated Blood Stream Infection Rates by Type of Adult/Pediatric Intensive Care Unit, New York State 2007-2009

Location	2007	2008			2009		
	SIR	Obs	Exp	SIR (95% CI)	Obs	Exp	SIR (95% CI)
Cardiothoracic	1.0	108	127.6	0.85 (0.69, 1.02)	97	130.2	0.75 (0.60, 0.91)
Coronary	1.0	110	95.7	1.15 (0.95, 1.39)	94	95.4	0.99 (0.80, 1.21)
Medical (major teaching)	1.0	145	150.8	0.96 (0.81, 1.13)	138	153.9	0.90 (0.75, 1.06)
Medical (other)	1.0	99	88.3	1.12 (0.91, 1.37)	79	101.6	0.78 (0.62, 0.97)
Medical surgical (major teaching)	1.0	117	101.2	1.16 (0.96, 1.39)	75	93.0	0.81 (0.63, 1.01)
Medical surgical (other)	1.0	360	359.7	1.00 (0.90, 1.11)	313	335.0	0.93 (0.83, 1.04)
Neurosurgical	1.0	42	44.6	0.94 (0.68, 1.27)	40	47.7	0.84 (0.60, 1.14)
Pediatric	1.0	99	94.9	1.04 (0.85, 1.27)	69	97.7	0.71 (0.55, 0.89)
Surgical	1.0	219	251.4	0.87 (0.76, 0.99)	161	251.2	0.64 (0.55, 0.75)
Adult/Pediatric TOTAL	1.0	1299	1314.2	0.99 (0.94, 1.04)	1066	1305.6	0.82 (0.77, 0.87)



Central Line-Associated Blood Stream Infection Rates, Level III and RPC NICUs, New York State, 2007-2009



New York State data reported as of August 25, 2010, including clinical sepsis and untreated events with single pathogen contaminated specimen (since unavailable in 2007)

Trends in CL/UCABSI Rates by Type of NICU, New York State 2007-2009

Location	2007	2008			2009		
	SIR	Obs	Exp	SIR (95% CI)	Obs	Exp	SIR (95% CI)
Level 2/3 NICU - CLABSI	1.0	40	33.9	1.18 (0.84, 1.61)	25	33.7	0.74 (0.48, 1.09)
Level 2/3 NICU - UCABSI	1.0	10	21.1	0.47 (0.23, 0.87)	14	19.8	0.71 (0.39, 1.19)
Level 3 NICU - CLABSI	1.0	23	23.3	0.99 (0.63, 1.48)	40	27.0	1.48 (1.06, 2.02)
Level 3 NICU - UCABSI	1.0	10	22.2	0.45 (0.22, 0.83)	19	21.2	0.90 (0.54, 1.40)
RPC NICU - CLABSI	1.0	142	172.2	0.82 (0.69, 0.97)	111	184.4	0.60 (0.50, 0.72)
RPC NICU - UCABSI	1.0	33	44.4	0.74 (0.51, 1.04)	25	52.9	0.47 (0.31, 0.70)
Neonatal TOTAL	1.0	258	317.1	0.81 (0.72, 0.92)	234	339	0.69 (0.60 - 0.78)

Cost Savings – NICU CL/UCBSIs

- ◆ Overall, 31% decrease in CLABSI/UCABSI in Neonatal ICUs between 2007 and 2009
- ◆ Using the 2007 consumer price index (CPI) for inpatient hospital services, savings estimated to be between \$765,000 and \$3.1 million
- ◆ Scott RD. The Direct Medical Costs of Healthcare-Associated Infections in U.S. Hospitals and the Benefits of Prevention, 2009.



NHSN and the IPPS Rule: Overview

1. Inpatient Prospective Payment System (IPPS) hospitals participating in CMS's Reporting Hospital Quality Data for Annual Payment Update (RHQDAPU) program will be required to submit healthcare-associated infection (HAI) data via CDC's National Healthcare Safety Network (NHSN) beginning January 2011
2. Central line-associated bloodstream infection (CLABSI) reporting for intensive care units and neonatal intensive care units beginning January 2011
3. Surgical site infection (SSI) reporting for select surgical procedure categories beginning January 2012

NYS-Funded Prevention Projects

- ◆ Training new infection preventionists
- ◆ Ventilator-associated pneumonia prevention
- ◆ *Clostridium difficile* surveillance, prevention and control
- ◆ Regional Perinatal Centers (CLABSIs in NICUs)
- ◆ MRSA infection versus transmission
- ◆ CLABSI – outside ICU settings
- ◆ Chlorhexidine bathing on BSIs in ICU patients
- ◆ MDRO colonization and infection in ICU patients
- ◆ Antimicrobial Stewardship Pilot Project in hospitals and affiliated nursing homes

Prevention Target

- ◆ Important
 - ◆ Severe disease, disability or death
- ◆ Preventable
 - ◆ Is there a known intervention?
 - ◆ Ideas for prevention or elimination?
- ◆ Need to identify key leaders based on target
 - ◆ Who has a role?
 - ◆ Establish prevention team

Prevention Team

- ◆ Need commitment from the top
- ◆ Multidisciplinary team
- ◆ Dependent upon specific project
- ◆ **Best Hint** - Find bright and motivated individuals
 - ◆ People who love to learn and work with others
 - ◆ This isn't all about knowing what works, its about learning how to make things work