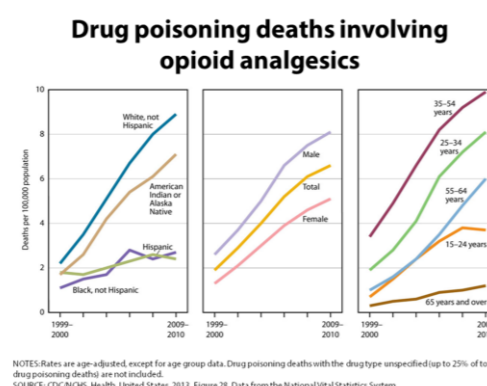
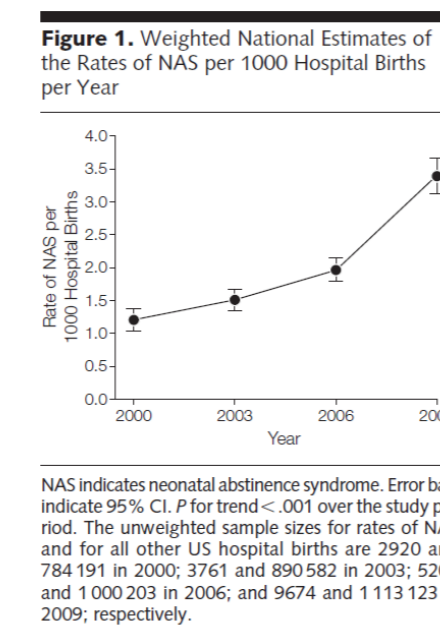


Improving the Care of Infants Impacted by Neonatal Abstinence Syndrome In Massachusetts

Munish Gupta (BIDMC) and Alan Picarillo (UMass), for the Neonatal Quality Improvement Collaborative of Massachusetts (NeoQIC)

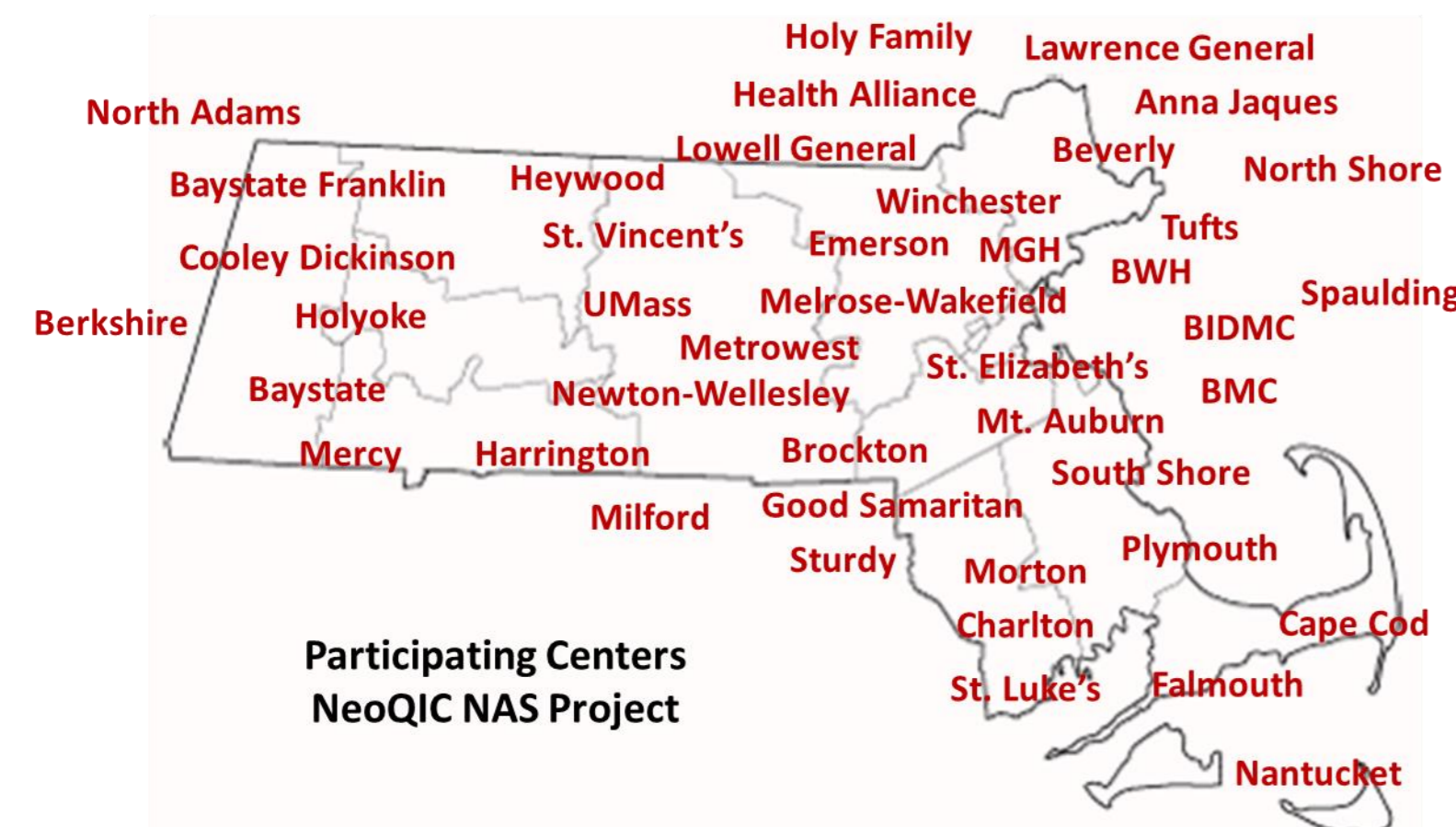
Problem

- Newborns exposed to opiates in-utero can experience post-natal withdrawal; this is known as neonatal abstinence syndrome (NAS).
- Substantial evidence indicates dramatically increased rates of opiate use and NAS, nationally and in Massachusetts (see figures).
- Despite its prevalence, considerable variation exists in management of infants with NAS, and there is a lack of consensus on best practices in this area.
- Caring for families and infants impacted by NAS can often cause frustration and anger in clinicians.
- In 2013, we launched a statewide initiative on NAS that sought to (1) improve the care of infants and families impacted by NAS and (2) develop tools and systems to support collaborative QI among neonatal providers throughout the state.



The Team

- 42 out of 50 birthing hospitals in the state are participating.

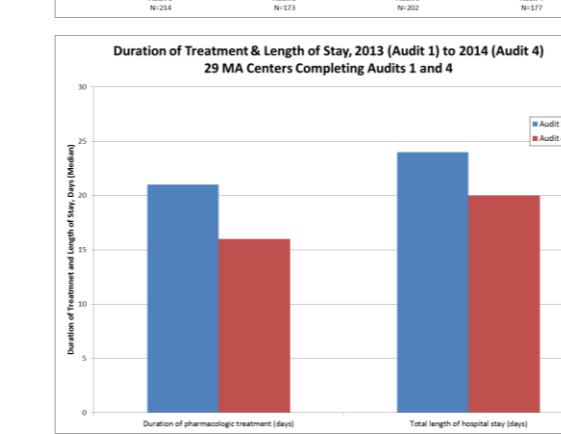
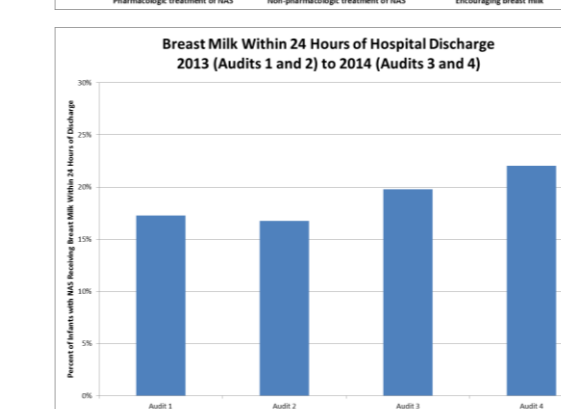
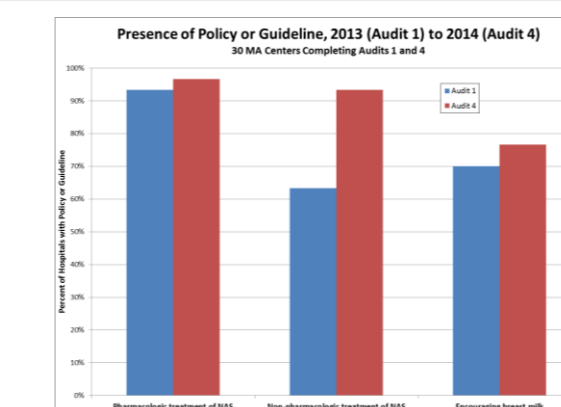
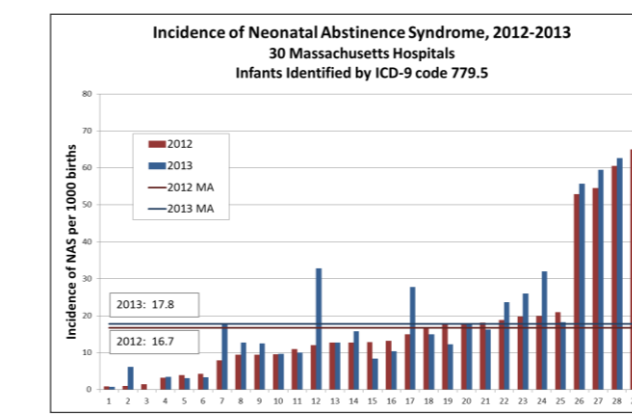


Interventions

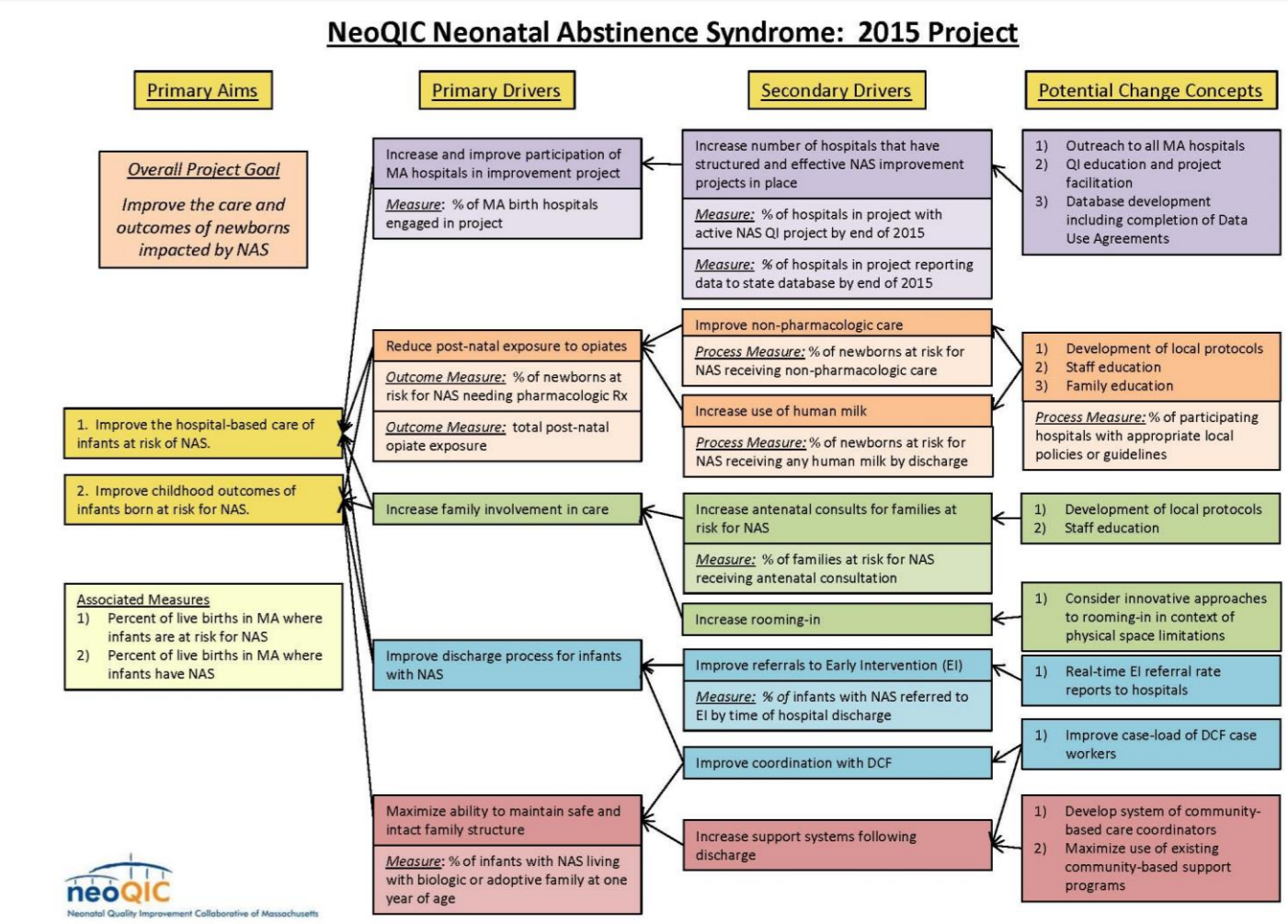
- KNOWLEDGE:** bimonthly webinars, twice-annual statewide meetings to review current best knowledge in NAS treatment
- AWARENESS:** extensive collaboration with Department of Public Health, including Bureau of Substance Abuse Services (BSAS), Early Intervention (EI), and Department of Children and Families (DCF)
- COLLABORATION:** statewide meetings, practice survey, website to openly share practices, policies, and resources
- IMPROVEMENT:** twice-annual data audits, local multidisciplinary improvement teams, local improvement projects; statewide key driver diagram to support efforts (see figure)

Results

- We found a much higher incidence of NAS in MA than anticipated: 17-18 per 1000 live births in 2012-2013, based on ICD data (see figure).
- We saw notable standardization of practices, such as elimination of use of diluted tincture of opium for treatment of NAS.
- We saw substantial increases in hospitals with policies on aspects of NAS care (see figure).
- We saw substantial increases in use of breast milk in infants with NAS (see figure).
- We saw significant reductions in length of stay (24 to 20 days) and pharmacologic treatment (21 to 16 days) for infants with NAS (see figure).



Key Driver Diagram



Lessons Learned

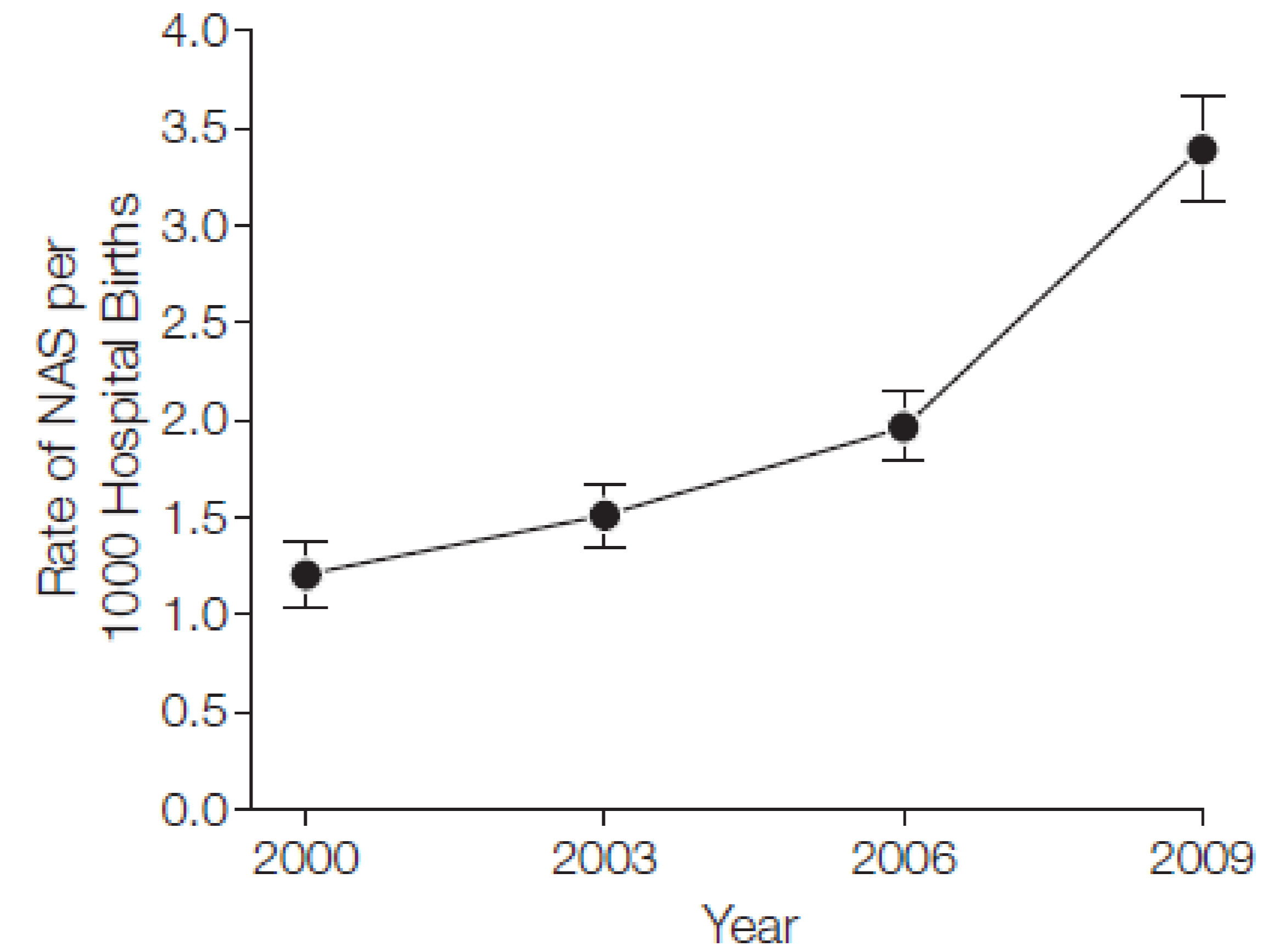
- Many opportunities exist to improve the trust and partnership between families impacted by NAS and providers. Although not measured, the most impressive result of the project to date may be changes in attitude of newborn providers towards these families.
- Collaboration between medical providers and public health agencies is critical to addressing the needs of these families. A statewide neonatal quality collaborative can and should incorporate all types of birthing hospitals. Level I, level II, and level III neonatal centers have much to learn from each other.

Next Steps

- Development of statewide guidance, in partnership with DCF, on controversial areas of NAS management
- Development of statewide database on NAS to better understand epidemiology, practice variations, and outcomes
- Partnering with BSAS treatment programs to improve collaboration between maternal and neonatal providers
- Focusing on post-discharge care of infants with NAS

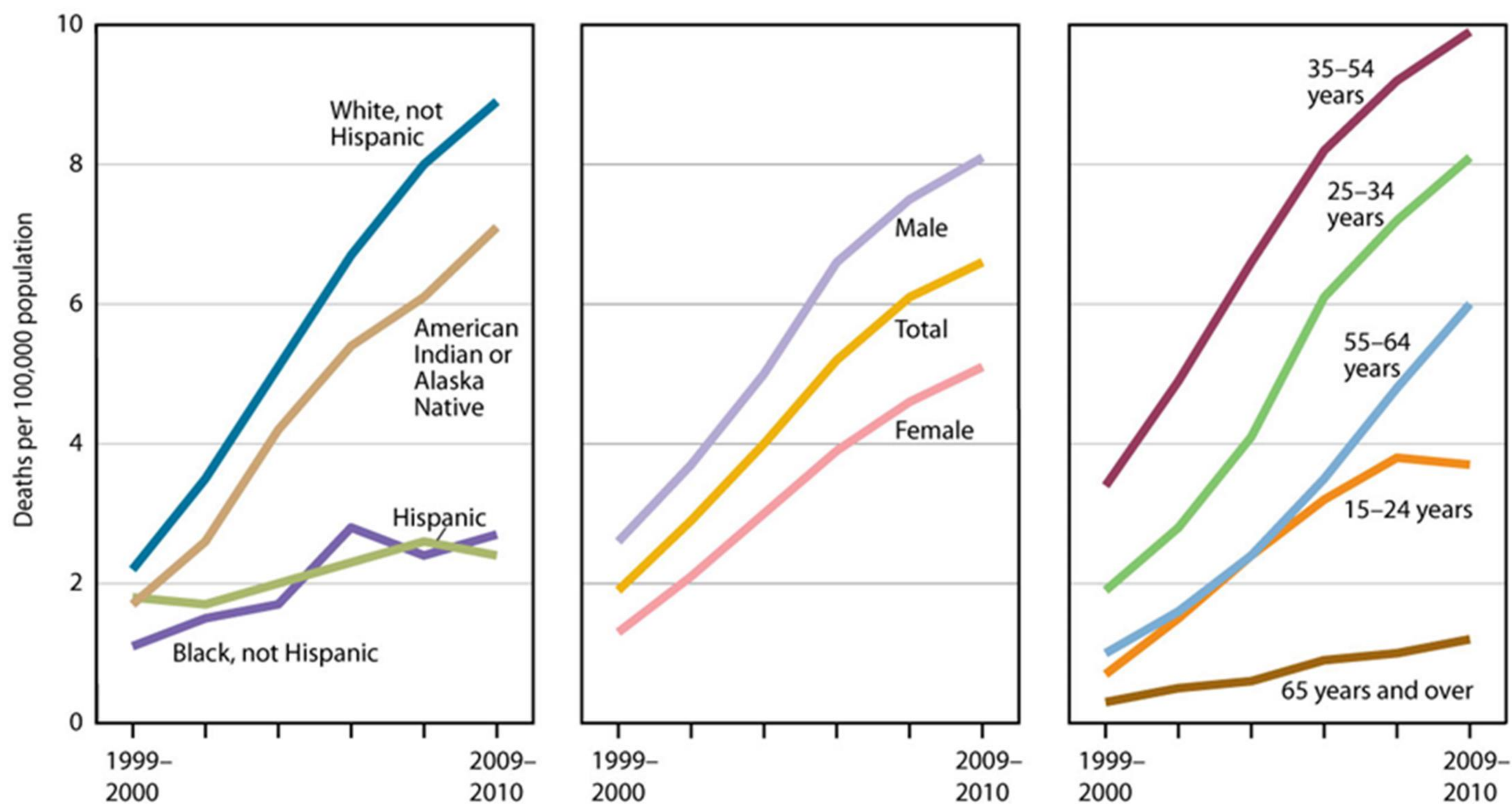


Figure 1. Weighted National Estimates of the Rates of NAS per 1000 Hospital Births per Year



NAS indicates neonatal abstinence syndrome. Error bars indicate 95% CI. *P* for trend < .001 over the study period. The unweighted sample sizes for rates of NAS and for all other US hospital births are 2920 and 784 191 in 2000; 3761 and 890 582 in 2003; 5200 and 1 000 203 in 2006; and 9674 and 1 113 123 in 2009; respectively.

Drug poisoning deaths involving opioid analgesics



NOTES: Rates are age-adjusted, except for age group data. Drug poisoning deaths with the drug type unspecified (up to 25% of total drug poisoning deaths) are not included.

SOURCE: CDC/NCHS, Health, United States, 2013, Figure 28. Data from the National Vital Statistics System.



The Boston Globe

THURSDAY, JUNE 19, 2014



VS

High rate of addicted babies in state

Data indicate far broader problem than Mass. officials' tally shows

By Tracy Jan
GLOBE STAFF

WASHINGTON — New research shows that the number of babies born in Massachusetts with opiates in their system is more than triple the national rate — and far higher than the number tallied by state officials.

Hospital diagnoses data reported to the federal government and obtained by the Globe also show that the toll of opiate addiction is affecting babies not only in Massachusetts, but in New England as a whole, at far greater rates than the rest of the nation.

“If you don't know the scope of the

problem, how can you begin to address it?” said Dr. Elisha Wachman, a neonatologist at Boston Medical Center who specializes in treating these babies and is involved in an effort by 42 Massachusetts hospitals to determine the prevalence of drug-exposed babies and improve their care.

Based on the hospitalization figures, Wachman and other researchers estimated that more than 1,300 Massachusetts babies — or about 17.5 per 1,000 hospital births— were born with narcotics in their system in 2013. Nationally, the figure is five babies out of every 1,000 births, based on hospitalization figures from 2012, the most recent avail-

BABIES, Page A6

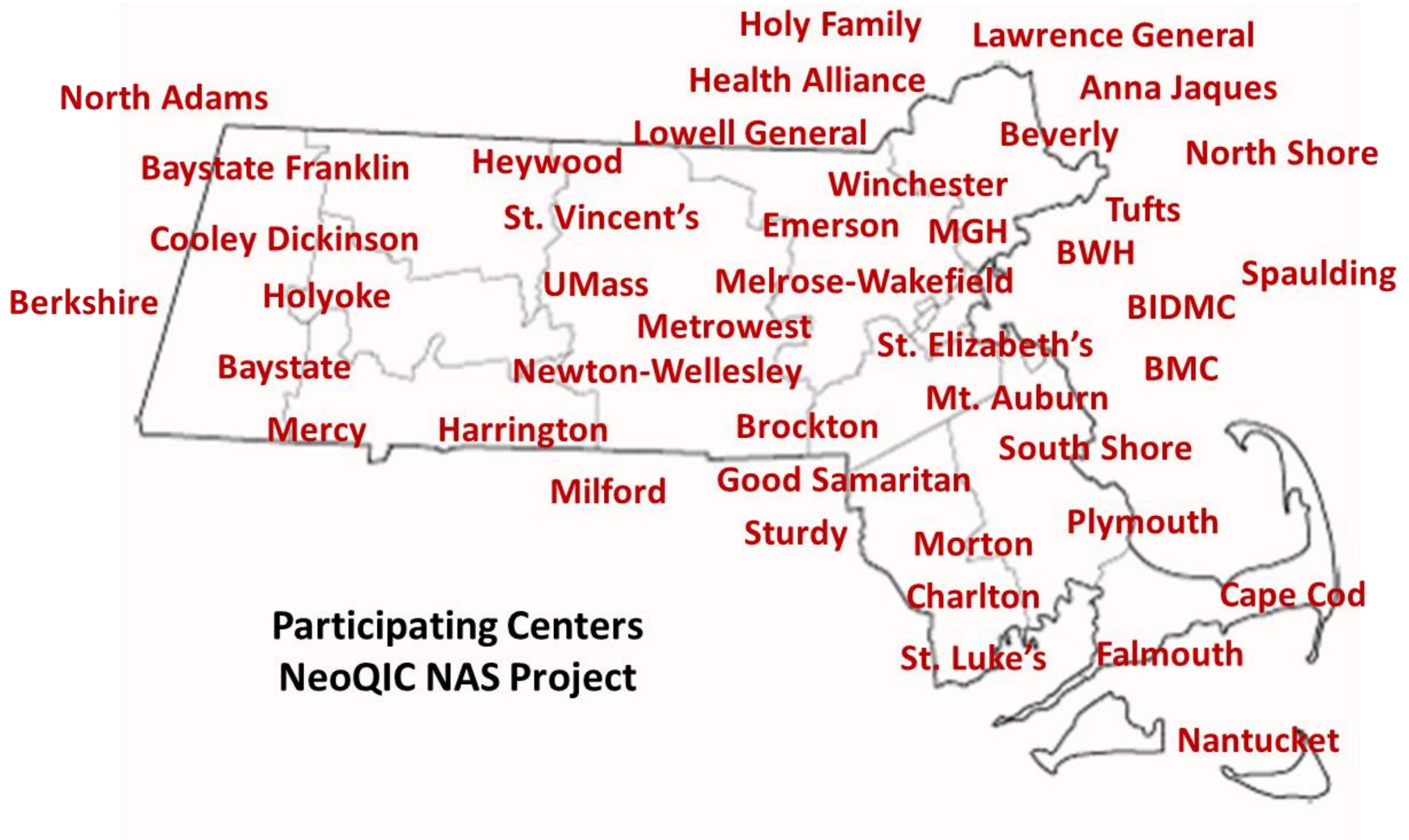
ells

try.

-64.

y.

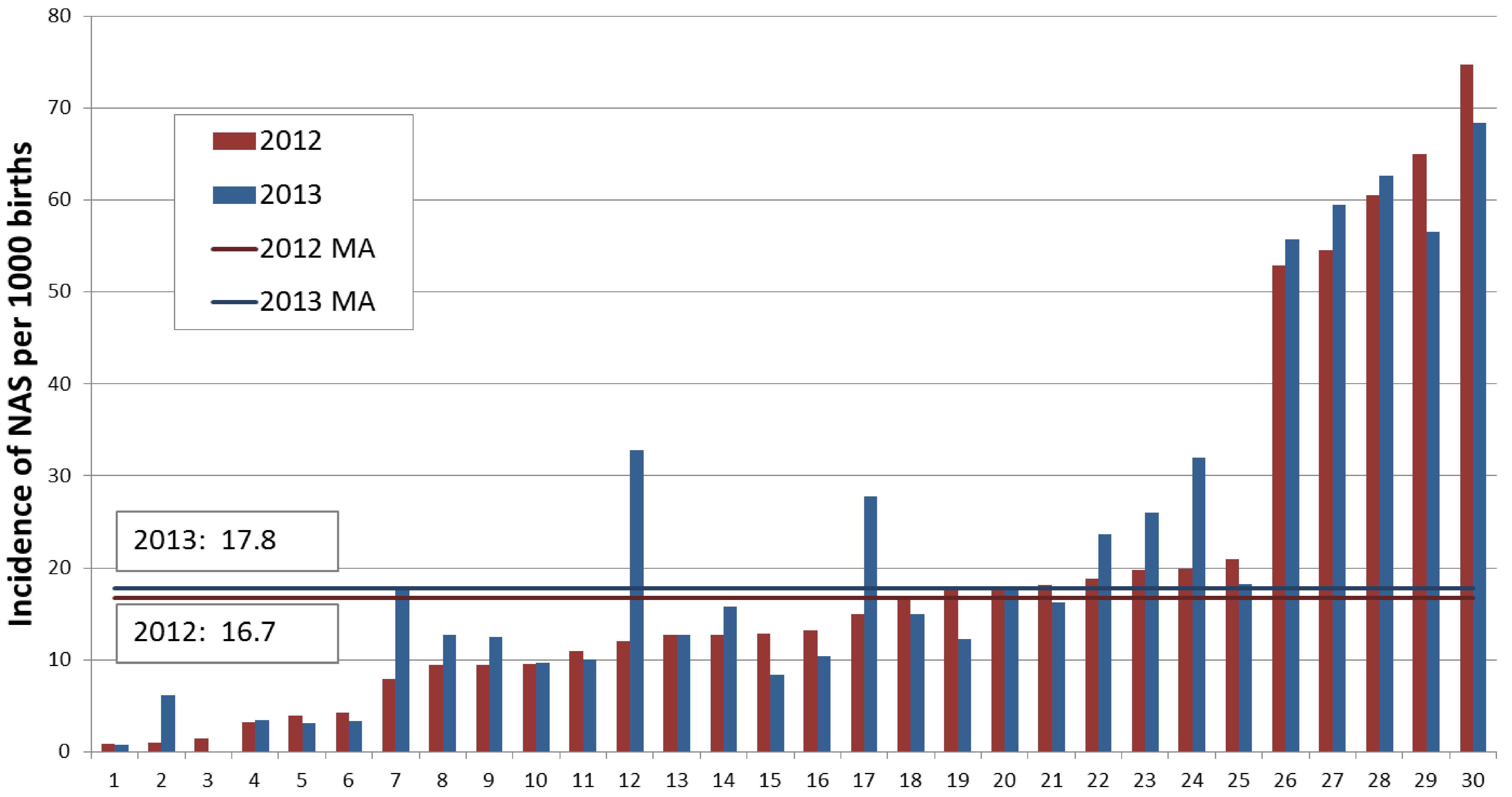
61



Incidence of Neonatal Abstinence Syndrome, 2012-2013

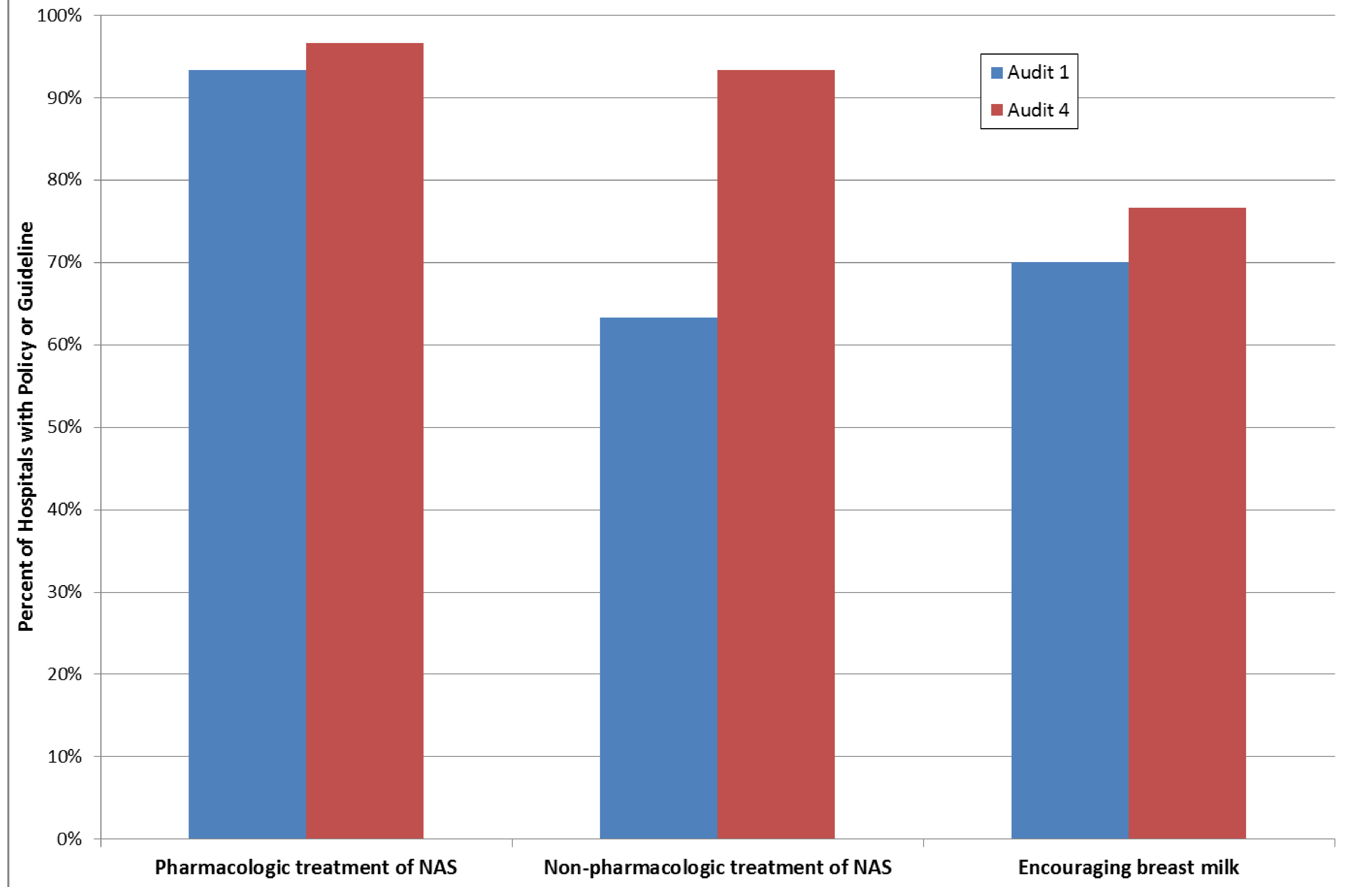
30 Massachusetts Hospitals

Infants Identified by ICD-9 code 779.5



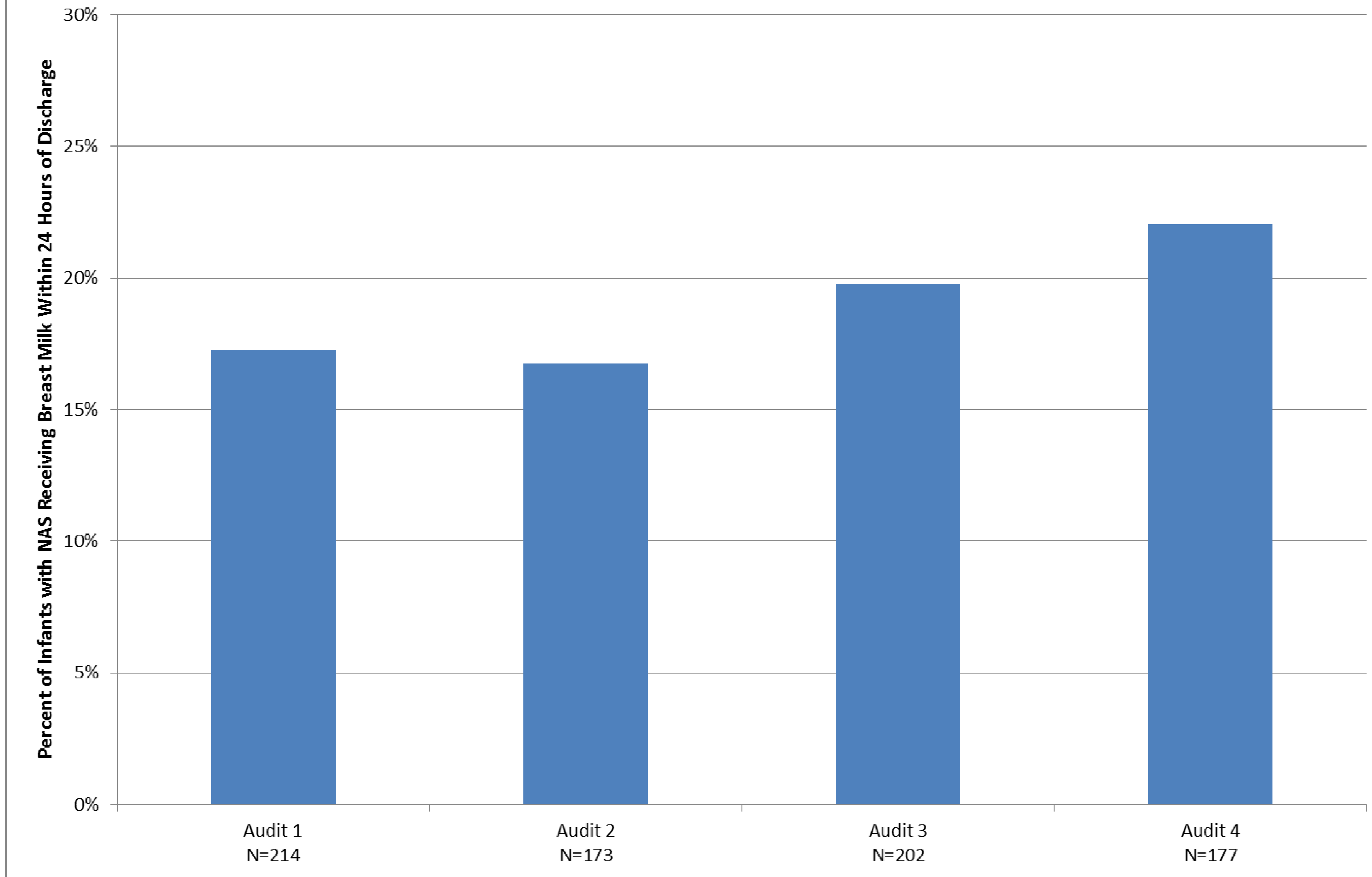
Presence of Policy or Guideline, 2013 (Audit 1) to 2014 (Audit 4)

30 MA Centers Completing Audits 1 and 4

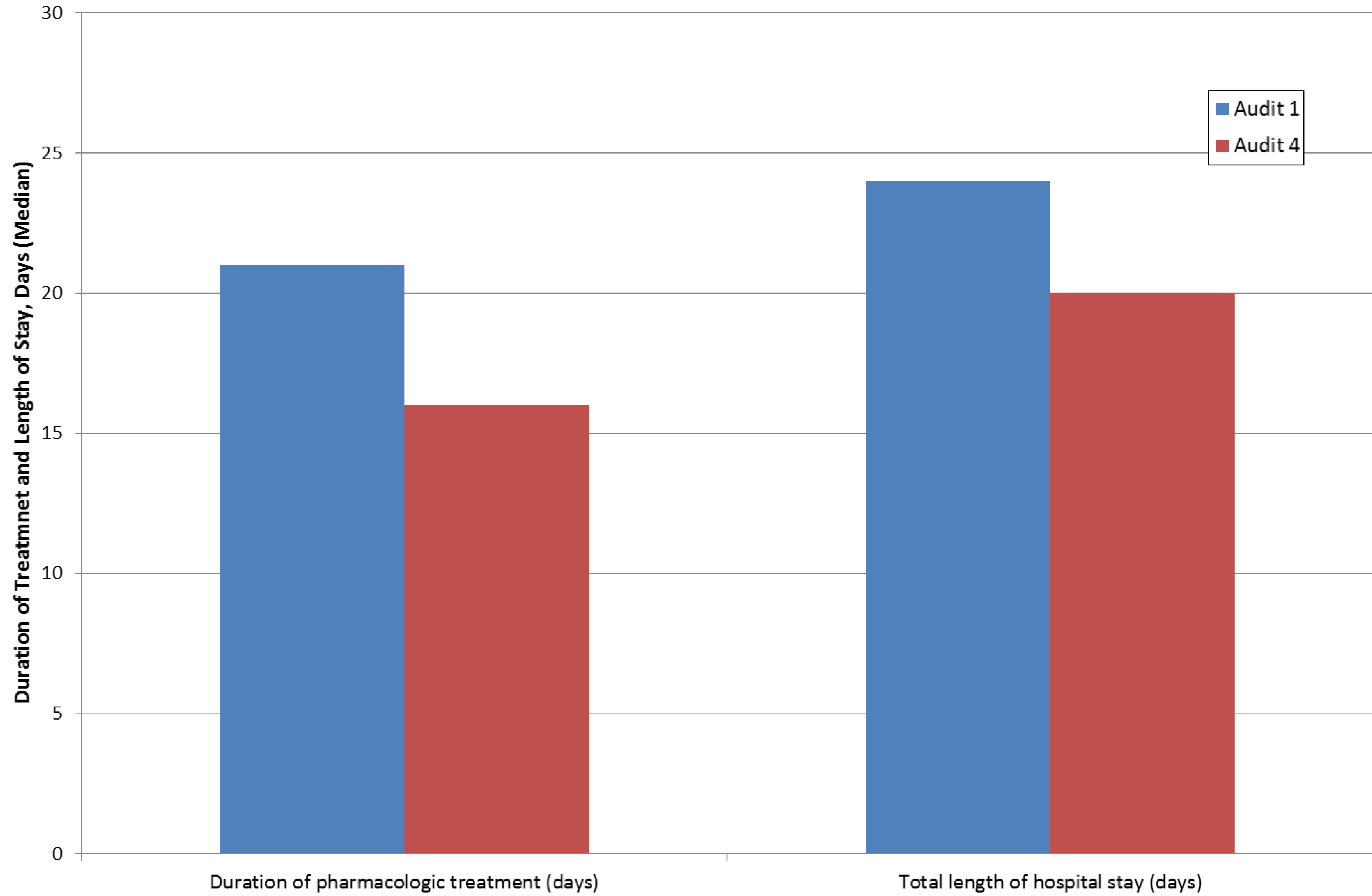




Breast Milk Within 24 Hours of Hospital Discharge 2013 (Audits 1 and 2) to 2014 (Audits 3 and 4)



Duration of Treatment & Length of Stay, 2013 (Audit 1) to 2014 (Audit 4) 29 MA Centers Completing Audits 1 and 4



NeoQIC Neonatal Abstinence Syndrome: 2015 Project

