

Problem

Meeting antibiotic stewardship goals in the neonatal intensive care unit (NICU) is challenging because of the unique nature of newborns and the lack of specificity of clinical signs of sepsis. Antibiotics are commonly continued for 48 hours pending culture results and clinical status. In the term newborns (≥ 35 weeks) there are extensive variations in prescribing antibiotics for newborn infections. The goal of this quality project is to decrease by 20% the number of newborns who receive antibiotics at ≥ 35 weeks. Another goal is to reduce by 20% the number of newborns with negative culture results and receiving antibiotics longer than 36 hours.

Established the BASIC team consisting of two physician champions, managers of Women and Infants and NICU, Educators for Women and Infants and NICU, Pediatric/NICU Clinical Pharmacist, EPIC Analyst, staff RN champions, and a QI Resource Specialist.

Project Implementation

- Readiness survey completed
- Baseline data collected-retrospective chart review of newborns who received antibiotics from October to December 2020.
- With the help of the Pediatric/Neonatal Pharmacist, the order set was modified to reduce the percentage of newborns with a negative culture results at 36 weeks.
- Disseminated the BASIC education at unit meetings, OB and Pediatric meetings
- Collaborated with the IT Applications Analyst to create an Intra amniotic report in the EMR
- Integrated the Kaiser Tool for newborns > 35 weeks who are candidates for antibiotic use in the Newborn Nursery



Results

>35 weeks received antibiotics within 72 hours:

Baseline: 44.24%
January '21: 25%
February '21: 9.50 %
March '21: 9.27%

>35 weeks with risk assessment tool for early onset sepsis:

Baseline: 96.88%
January '21: 100%
February '21: 100%
March '21: 100%

<35 weeks with AAP recommended risk assessment algorithm used:

Baseline 81.82%
January '21: 100%
February '21: 100%
March '21: 100%

Table 1

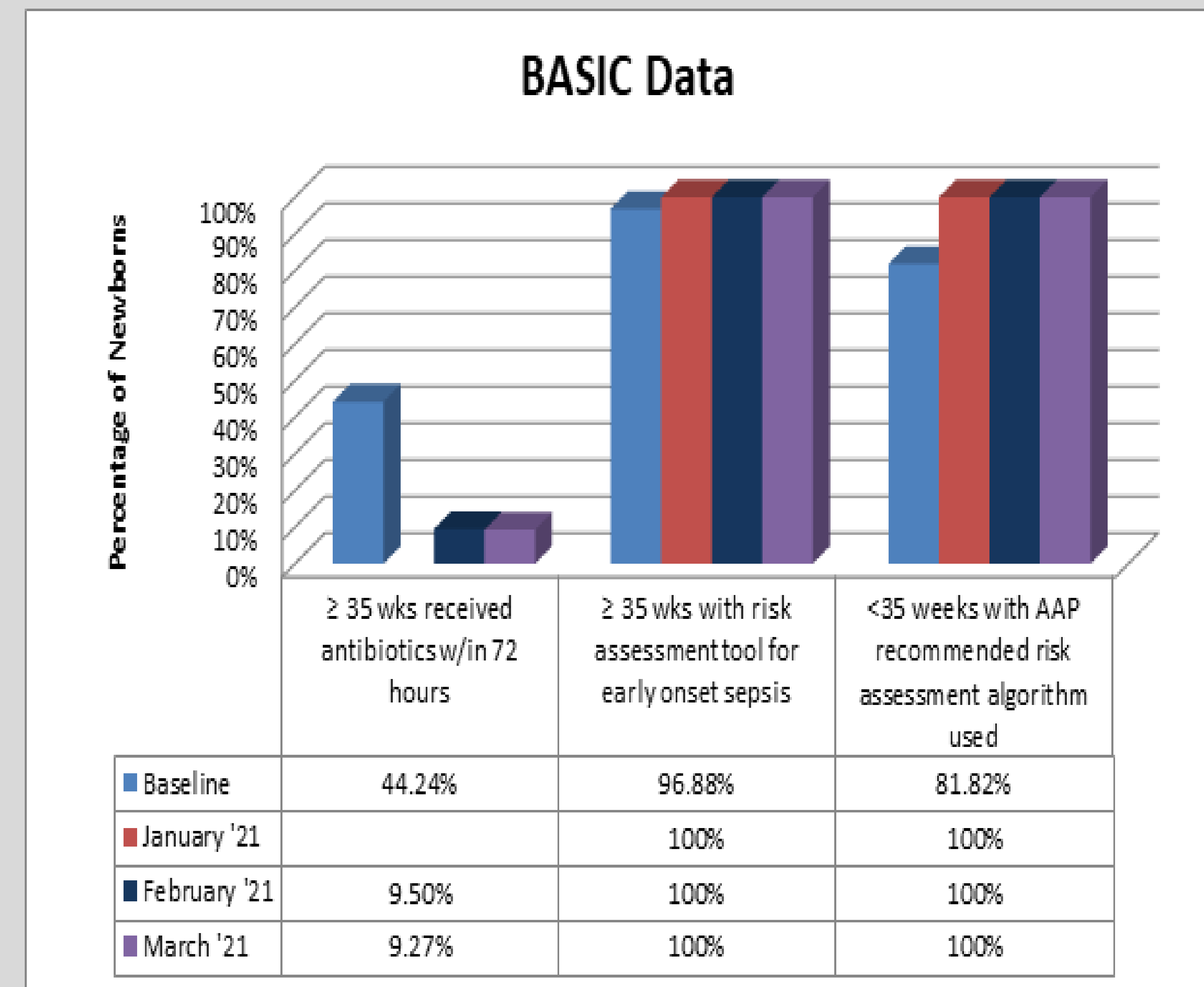


Figure 1.
Hospital QI tool used to drive change



Conclusions

- There is wide variation and a high rate of continued antibiotic treatment in the absence of positive culture results in the infants ≥ 35 weeks. Inadequate infrastructure contributes to the overuse and misuse of antibiotics. Efforts that are systematic can be used to address these deficiencies to promote adherence and the appropriate use of antibiotics in the newborn period.

Acknowledgements/Hospital Team

- **RN champions:**
 Agatha Sowizral BSN, RN and Barbara Diwisch BSN, RN, RNC-MNN (Staff RN Women and Infants)
 Janet Breitman BSN, RNC-NIC (Staff RN NICU)
- **Pediatric/NICU Clinical Pharmacist:** Ashley Lange PharmD, BCPPS
- **EPIC Analyst:** Shiny Shibu BSN, RN
- **QI Resource Specialist :** Elizabeth Schuett CPHQ
- **Women and Infants Team**
- **NICU Team**