



Colorado Perinatal Care Quality Collaborative
Colorado Antibiotic Stewardship Collaborative
Neonatal Early Onset Sepsis (CASC-NEOS)
Project Charter Part II

1. What are we trying to accomplish?

Problem:

- Describe your current process for evaluating and treating newborns for early onset sepsis

Example: There is no standard approach to evaluation and treatment of early onset sepsis in our late preterm and term newborns. Some providers evaluate and treat all babies whose mothers were diagnosed with chorioamnionitis. Other providers only evaluate and treat babies with symptoms. We check a lot of labs (CBC, CRP) and use the labs to help guide initiation and duration of treatment. There is not a standard antibiotic duration, although most babies receive treatment for 48 hours minimum. When a baby is started on antibiotics, the baby is moved to our nursery for the duration of treatment, or is transferred to a higher level nursery depending on symptoms.

Project Description:

- Describe your thoughts about what could be improved about the current process?

Example: The lack of standardization in evaluation and treatment for EOS may lead to overprescribing of antibiotics for low risk newborns and/or under prescribing of antibiotics for high risk newborns. This places patients at risk of unnecessary antibiotic exposure and untreated sepsis, causes confusion for nursing staff, is a source of dissatisfaction for parents, and places medical providers at legal risk. It would be helpful to have a standardized process for deciding which babies need evaluation and treatment, and also a standardized duration of therapy. Also, the current process separates asymptomatic babies from their mother, which is disruptive to breastfeeding and to early bonding.

- What interventions might you implement? (i.e. Sepsis Risk Calculator, automatic stop orders). Note the patient population and the unit where the work will take place.

Example: Our team plans to implement the Sepsis Risk Calculator to standardize our evaluation of newborns for early onset sepsis. We would use the SRC for every baby 35 0/7 weeks or beyond delivered at our hospital and admitted to newborn nursery/special care

nursery/NICU. Once the SRC is implemented, we hope to implement other interventions that will standardize the duration of therapy and may help to reduce the number of lab tests that are sent for each patient.

Rationale:

- Why/how do you think the intervention(s) proposed will benefit your hospital, nursery, patients, families, team etc.?

Example: Newborns will be exposed to antibiotics based on their statistical risk of infection. Fewer babies will be exposed to antibiotics unnecessarily. Nursing staff will have a clear understanding of which babies are likely to be prescribed antibiotics and will be able to communicate this the parents/families. Fewer mothers and babies will undergo the distress of blood draws for cultures and IVs for antibiotics, improving the bonding experience. Medical providers will save time because they will have a clear understanding of the statistical risk of infection for each newborn.

- What is the business impact of the proposed intervention(s)? Such as reduced costs or financial benefits to your hospital?

Example: Knowing the risk of sepsis will facilitate timely discharge (and lower hospital costs) – or prolonged stay in the case that it's appropriate. Childhood health in our community may improve if fewer infants are exposed to antibiotics in the newborn period.

- Provide any available baseline data demonstrating your nursery's current Antibiotic Utilization Rate (AUR)

Example: With help from CPCQC, create a run chart of neonatal AUR for the 6 month period prior to CASC-NEOS commitment in order to determine baseline AUR

Aim Statement: (SMART – Specific, Measurable, Achievable, Realistic, Time-Bound)

Overall Initiative Aim:

By December 2020, newly participating CASC hospitals will utilize defined best practices for evaluating risk for neonatal sepsis to demonstrate a 10% decrease in antibiotic utilization rate (AUR), without any missed cases or delayed treatment for cases of true sepsis in patients 35 0/7 weeks or beyond.

- Complete an aim statement specific for your hospital (you can set a goal beyond the overall initiative's, but *not* below)

By December 2020, _____ [Hospital Name] _____ will utilize defined best practices for evaluating risk for neonatal sepsis to demonstrate a X% decrease in antibiotic utilization rate (AUR), without any missed cases or delayed treatment for cases of true sepsis in patient 35 0/7 weeks or beyond.

Example 1: (for nurseries prescribing antibiotics based on “old” CDC/AAP guidelines, or who otherwise may have high rates of antibiotics, etc): By utilizing the EOS Sepsis Risk Calculator and implementing standard treatment guidelines, we will decrease our Antibiotic Utilization Rate (AUR) in the first week of life in newborns ≥ 35 weeks gestation from X/1000 patient days, to Y/1000 patient days (a Z% decrease) by XX/XX/20XX and sustain this decrease for 6 months.

Example 2: (for nurseries not currently using any guidelines, may be missing infants at high risk of sepsis, etc): By implementing the EOS Sepsis Risk Calculator and standard treatment guidelines, we will increase the use a standard assessment of sepsis risk in the first 24 hours in newborns ≥ 35 weeks gestation from X/100 patients to 100% of patients by XX/XX/20XX and sustain this increase for 6 month. By XX/XX/20XX we will be obtaining our AUR monthly.

2. What changes can we make that will result in improvement?

Key Stakeholders:

- Whose input and support will this initiative require?

Example: Senior Leaders (CNO, CMO, CEO), Providers (MD, NP/PA), Pharmacist(s), L&D Nursing Staff, Nursery Nursing Staff, Nurse Managers, EMR IT Staff, Lab/Microbiology Technician(s), Families

- How will you engage these stakeholders?

Example: Explain to senior leadership that implementation of this initiative can increase patient satisfaction, lead to better short- and long-term outcomes for moms and babies, and can lead to decreases in costly hospital stays. Provide education to nursing staff on the benefits of decreasing unnecessary neonatal antibiotic use for moms and babies.

Barriers:

- What barriers do you predict?

Example: The belief that lower threshold for antibiotics is good “just to be safe”. The belief that if a blood culture is negative, a newborn is still likely to have an infection. Finding the time to use the tool, to find data if not readily available in the EHR, and to educate staff on the intervention(s).

- How will you overcome these barriers?

Example: At the CASC-NEOS site visit we will have education on the problems with antibiotic use “just to be safe” as well as discussion about the rarity of missed cases of early onset sepsis. We will seek assistance in determining the most efficient way to incorporate intervention(s) into our workflow to not experience a substantial time burden.

3. How will we know that a change is an improvement?

Outcome Measure(s):

- List the measure(s) you ultimately want to affect as a result of this initiative (Note: CPCQC will provide data reports for all required measures and optional supported measures. CPCQC will provide templates but will not create data reports for other measures).
 - (REQUIRED): Antibiotic Utilization Rate (AUR) = Antibiotic Days / 1000 patient care days
 - (OPTIONAL, SUPPORTED): Number of newborns exposed to antibiotics

List any additional outcome measures your team is interested in collecting (OPTIONAL)

Example:

Number of blood cultures, lab tests, etc.

Family/parent satisfaction / breastfeeding rates / provider satisfaction etc.

Process Measure(s):

- List the measure(s) that will tell you if the system is performing as planned to affect the outcome measure (OPTIONAL)
 - (OPTIONAL, SUPPORTED) Measure whether intervention(s) are being performed on all intended newborns

Examples:

% of patients with EOS SRC score recorded by 2 hours of life (or other appropriate time frame)

% of time communication of score and recommendation to provider occur, when indicated

% of time recommendation is adopted by provider and/or % of time stop date ordered at onset of antibiotics

Balancing Measure(s):

- List the measure(s) that will tell you whether you are introducing problems into the system.
 - (REQUIRED): Case review on all babies with a positive blood culture drawn in the first 7 days of life

List any additional balancing measure your team is interested in collecting (OPTIONAL)