Febrile Infant CPG Trackable Improvement and Implementation Measures

The development of these metrics was led by Dr. Eric Biondi, the Implementation Scientist on the AAP Febrile Infant Subcommittee. Special thanks to Dr. Corrie McDaniel and Dr. Paul Aronson who aided in development and crafted large parts of this document.

These metrics can be used standalone or as a group.

They will also be used by the AAP's Quality Improvement Initiative "Reducing Excessive Variability in the Infant Sepsis Evaluation" (REVISE II). For more details on that project and how to apply, go to www.aap.org/vipnetwork

Table 1. Outcome Measures for Febrile Infant CPG Implementation

Measure	Definition	Numerator	Denominator
1. Appropriate CSF	90% of infants 29-60 days with normal inflammatory markers (and either a negative UA OR a positive UA) DO NOT have CSF obtained	Infants 29-60 days with normal inflammatory markers (and either a negative OR a positive UA) who DO NOT have CSF obtained	All infants 29-60 days with normal inflammatory markers (and either a negative UA OR a positive UA)
2. Appropriate disposition from the emergency department	90% of infants 29-60 days with normal inflammatory markers and negative UA discharged from the ED	Infants 29-60 days with normal inflammatory markers and a negative UA who are discharged from the ED	All infants 29-60 days with normal inflammatory markers and a negative UA
3. Appropriate receipt of antibiotics	90% of infants 29-60 days with normal inflammatory markers and negative UA DO NOT receive antibiotics	Infants 29-60 days with normal inflammatory markers and negative UA who DO NOT receive antibiotics	All infants 29-60 days with normal inflammatory markers and negative UA
4. Appropriate discharge from the hospital	90% of infants 8-60 days with negative cultures have appropriate discharge from the hospital within 36 hours from the time blood cultures were received by the laboratory	Hospitalized infants 8-60 days with negative cultures discharged within 36 hours	All hospitalized infants 8-60 days with negative cultures

Table 2: Secondary measures

Measure	Definition	Numerator	Denominator
1. Appropriate follow-up	75% of infants 22-60 days discharged from the emergency department have	Infants 22-60 days discharged from the emergency	All infants 22-60 days discharged from

	documented education with parents about the importance of follow-up within 1 calendar day	department who have documented education with parents about the importance of follow-up within 1 calendar day	the emergency department
2. Appropriate parent engagement			
a. CSF	75% of infants 22-28 days with normal inflammatory markers and negative UA have documented physician-parent discussion about the harms/benefits of having CSF obtained	Infants 22-28 days with normal inflammatory markers and negative UA who have documented physician-parent discussion about the harms/benefits of having CSF obtained	Infants 22-28 days with normal inflammatory markers and negative UA
b. Discharge from the ED	75% of infants 22-28 days with normal inflammatory markers, negative UA, and normal CSF have documented physician-parent discussion about the harms/benefits of hospitalization vs. discharge from the ED after one dose of parenteral antibiotic therapy	Infants 22-28 days with normal inflammatory markers, negative UA, and normal CSF who have documented physician-parent discussion about the harms/benefits of hospitalization vs. discharge from the ED after one dose of parenteral antibiotic therapy	Infants 22-28 days with normal inflammatory markers, negative UA, and normal CSF
3. Oral antibiotic use for infants 29-60 days with positive UAs	75% of infants 29-60 days olds with a positive UA, negative inflammatory markers, and normal CSF (if obtained) receive oral antibiotics (with or without ONE dose of parenteral antibiotic therapy)	Infants 29-60 days olds with a positive UA, normal inflammatory markers, and normal CSF (if obtained) who receive oral antibiotics (with or without ONE dose of parenteral antibiotic therapy)	Infants 29-60 days olds with a positive UA, normal inflammatory markers, and normal CSF (if obtained)

Table 3. Balancing measures

Measure	Definition	Numerator	Denominator
Appropriate evaluation			
a. 8-21 days	% of infants 8-21 days who have a urinalysis and/or urine culture, blood culture, and CSF culture obtained, and who are hospitalized on parenteral antibiotic therapy	Infants 8-21 days who have a urinalysis and/or urine culture, blood culture, and CSF testing including culture obtained, and who are hospitalized on parenteral antibiotic therapy	Infants 8-21 days who present to the emergency department or hospital with fever
b. 22-60 days	% of infants 22-60 days who have a urinalysis and/or urine culture, blood culture, and inflammatory markers obtained	Infants 22-60 days who have a urinalysis and/or urine culture, blood culture, and inflammatory markers obtained	Infants 22-60 days who present to the emergency department or hospital with fever
Emergency department revisit	% of infants 22-60 days who did not have CSF obtained or did not receive antibiotic therapy who return to the emergency department within 7 days of discharge	Infants 22-60 days who did not have CSF obtained or did not receive antibiotic therapy who return to the emergency department within 7 days of discharge	All infants 22-60 days who are evaluated for a fever and who did not have CSF obtained or receive antibiotic therapy
Readmission	% of infants 22-60 days who did not have CSF obtained or receive antibiotic therapy who are readmitted to the hospital within 7 days of discharge	Infants 22-60 days who did not have CSF obtained or receive antibiotic therapy who are readmitted to the hospital within 7 days of discharge	All infants 22-60 days who are evaluated for a fever and who did not have CSF obtained or receive antibiotic therapy
Delayed diagnosis of invasive bacterial infections	% of infants age 22-60 days discharged from the emergency department or hospital who did not have CSF obtained or receive antibiotic therapy who have a diagnosis of bacteremia and/or bacterial meningitis within 7 days of discharge	Infants 22-60 days discharged from the emergency department or hospital who did not have CSF obtained or receive antibiotic therapy who have are diagnosed with bacteremia and/or	All infants 22-60 days discharged from the emergency department or hospital after evaluation for fever who did not have CSF obtained or receive antibiotic therapy

		bacterial meningitis within 7 of discharge	

Not Measures, but could track at 3 or 6-month intervals:

Measure	Definition	Numerator	Denominator
Equitable care	Across all outcome and process measures for infants 22-60 days, there will be equitable distribution across race and ethnicity	Infants 22-60 days who are Non-Hispanic Black, Non-Hispanic White, and Hispanic in the numerators above	Infants 22-60 days in the denominators above