

Clinical sign prompting sepsis work-up	Frequency cited for all events (n=408) N (%)	Frequency cited for events with HR-SpO ₂ data available (n=266) N (%)
Apnea, bradycardia, or desaturation events	193 (47%)	122 (46%)
Increased FiO ₂ or respiratory support	149 (37%)	100 (38%)
Abnormal CBC value(s)	112 (27%)	75 (28%)
Abdominal distension	90 (22%)	64 (24%)
Acidosis	72 (18%)	48 (18%)
HeRO score*	68 (17%)	62 (23%)
Abnormal radiographic findings	58 (14%)	41 (15%)
C-reactive protein value	51 (13%)	33 (12%)
Lethargy	37 (9%)	26 (10%)
Hypotension	34 (8%)	20 (8%)
Urgent intubation	34 (8%)	29 (11%)
Hypothermia	30 (7%)	18 (7%)
Tachypnea	23 (6%)	11 (4%)
Perfusion or color	23 (6%)	16 (6%)
Emesis	21 (5%)	16 (6%)
Increased HR	20 (5%)	10 (4%)
Hyperthermia	20 (5%)	10 (4%)
Increased work of breathing	19 (5%)	10 (4%)
Low urine output	19 (5%)	12 (5%)
Residuals	16 (4%)	10 (4%)
glucose	15 (4%)	10 (4%)

Skin finding	15 (4%)	5 (2%)
Discolored abdomen	11 (3%)	6 (2%)
sodium	8 (2%)	3 (1%)
Bloody stool	6 (1%)	2 (1%)
creatinine	3 (1%)	2 (1%)
*only available at one NICU, excluded from analysis		

Table S4. Clinical signs prompting sepsis work-ups and their frequency. Signs with frequency $\geq 5\%$ are shown in Figure 1, grouped by diagnosis.