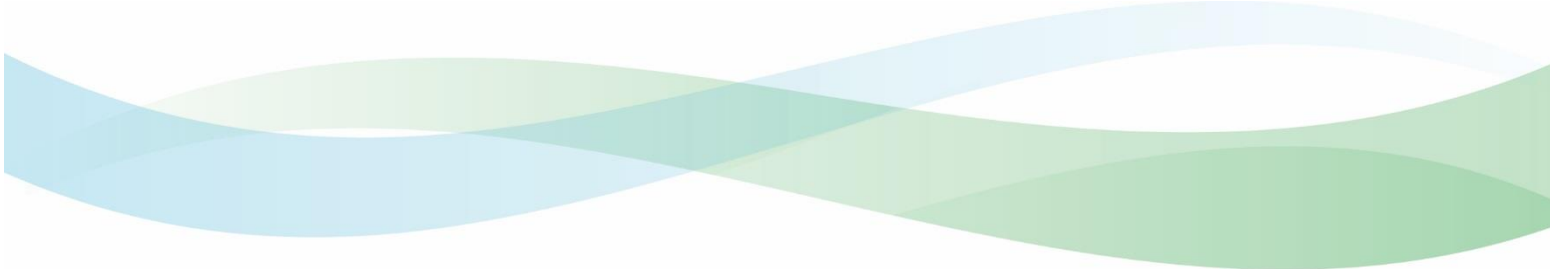


Sepsis Detection Tools (Sepsis Predictive Model)

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Getting Started

A PDF version of this guide is available for download from your learning home dashboard within Epic Hyperspace.

This guide is NOT a substitute for any required end-user training. Like all Epic training materials, this guide is a technical aid only and is not a substitute for your hospital's protocols or your clinical judgment.

IT Help Desk and Epic Support

Please call **855-214-3027** or email EHR-Site-Specialists@bsmhealth.org for immediate support during business hours.

For off-business hours issues, or if you still cannot solve a particular problem after reviewing this guide and contacting the Site Specialists, please call the BSMH IT Service Desk at **1-833-691-4357**. The Service Desk is open 24 hours a day, but more specialized help may require a follow-up call during business hours.

For less-urgent problems that do not delay patient care, try the **Help Desk** button in your toolbar next to the Print and Logout buttons. This tool lets you send a screenshot and a summary of your problem to an Epic site specialist. If your issue has a known solution, your site specialist can follow up with you personally. If it does not, they can escalate your issue to the appropriate Epic team member

Sepsis Detection Tools

What is the Sepsis Predictive Model?

The Sepsis Predictive Model is a sepsis detection tool that evaluates patient data for early detection of septic adult patients ≥ 18 years old, allowing intervention before sepsis has the opportunity to progress. Best Practice Advisories (BPA) with recommended sepsis-focused clinical action have been developed based on the model's threshold trigger of ≥ 4 . The sepsis predictive model evaluates approximately 80 different variables. Some of the most predominant include:

Demographics

Vital signs

Recent lab results

Medication orders

Comorbidities

Active lines/drains/airways

The BPAs developed will appear differently for nurses and providers. Additional tools have also been developed to facilitate meeting sepsis core measures.

The tools made available by the Sepsis Predictive Model will assist you in making clinical decisions for the best care of your patients, but will never make clinical decisions for you.

Nursing Best Practice Advisories

Emergency and Inpatient Nurses

Nurses in the emergency and inpatient settings will encounter the same Best Practice Advisory (BPA) when a patient is identified as high risk for sepsis. The sepsis BPA will also appear within the nursing navigators until the patient no longer meets a model threshold of ≥ 4 . This BPA will take place of the **Sepsis Screening** section historically found within the nursing navigators.

When this BPA appears, nurses can click the **Notify Provider of Suspected Infection** or make a selection from the **Acknowledge Reason** section for bypassing the BPA. This BPA cannot be dismissed or closed.

Notify Provider of Suspected Infection will cause the **Provider Notification** window to appear. Within the Provider Notification window nurses should document the following:

- Reason for Communication
- Provider Name
- Provider Notification
- Method of Communication
- Response
- Notification Time
- Shift Event

Upon completing the documentation within the Provider Notification window, click **Accept**. Nurses should then select the option of **Notified Provider of Suspected Infection** to fulfil the BPA requirement. Clicking **Accept** will then close the window. If the nurse would like to create multiple provider notifications, one can click **Accept and New** and create as many provider notifications as needed.

6 (High)	Calculated	Early Detection of Sepsis Model	Factors Contributing to Score
40%	1/30/2019 09:08		SIRS temperature criterion is met
35%			SIRS pulse criterion is met
23%			Age is 75
2%			Sex is male

Reason for Communication
<input type="checkbox"/> Evaluate
<input type="checkbox"/> New orders
<input type="checkbox"/> Critical Value (comment)
<input type="checkbox"/> Review case
<input type="checkbox"/> Patient request
<input type="checkbox"/> Parent request

Provider Notification
<input type="checkbox"/> Physician
<input type="checkbox"/> Physician Assistant
<input type="checkbox"/> Rapid Response Team
<input type="checkbox"/> Nurse
<input type="checkbox"/> Nursing Supervisor
<input type="checkbox"/> Nurse Practitioner
<input type="checkbox"/> Resident
<input type="checkbox"/> Respiratory Therapist
<input type="checkbox"/> Code Pink
<input type="checkbox"/> Other (Comment)

Method of Communication
<input type="checkbox"/> Call
<input type="checkbox"/> Face to face
<input type="checkbox"/> Overhead
<input type="checkbox"/> Page
<input type="checkbox"/> Secure Message
<input type="checkbox"/> Other (Comment)

Response
<input type="checkbox"/> At bedside
<input type="checkbox"/> En route
<input type="checkbox"/> In department
<input type="checkbox"/> No new orders
<input type="checkbox"/> See orders
<input type="checkbox"/> Waiting for resp...
<input type="checkbox"/> Other (Comment)

Shift Event
<input type="checkbox"/> AMA=Against me...
<input type="checkbox"/> Code
<input type="checkbox"/> Downtime
<input type="checkbox"/> Elope
<input type="checkbox"/> Fall
<input type="checkbox"/> Patient family res...
<input type="checkbox"/> Rapid response
<input type="checkbox"/> Security
<input type="checkbox"/> Seizure
<input type="checkbox"/> Transfer
<input type="checkbox"/> Other (comment)

Provider Best Practice Advisories

Inpatient Provider Best Practice Advisories

Inpatient providers will encounter the following Best Practice Advisory (BPA) when a patient is identified as high risk for sepsis. When this BPA appears, inpatient providers should open the **GEN Adult Sepsis/Severe Sepsis Focused** order set and make ordering decisions or select an **Acknowledged Reason** for bypassing the BPA. This BPA cannot be dismissed or closed.

The sepsis BPA specifically looks if **Lactate,Sepsis** has been ordered; this is available in the GEN Adult Sepsis/Severe Sepsis Focused order set. If the lab has been ordered the BPA will not trigger for 6 hours.

BestPractice Advisory - Beacon, Sarah "Tiff"

This patient's early detection of sepsis score indicates a HIGH RISK! A score ≥ 4 indicates high risk
Consider initiating sepsis treatment via the Sepsis Order Set below.

Predictive Model Details

7 (High)
Calculated 1/31/2019 11:01
Early Detection of Sepsis Model

Factors Contributing to Score	
33%	SIRS temperature criterion is met
28%	SIRS pulse criterion is met
15%	Age is 61
14%	SIRS respirations criterion is met
3%	Number of active vancomycin orders is 1
3%	Number of active local anesthetics orders is 1
2%	Number of active betalactam orders is 1
1%	Number of active analgesic antipyretic orders is 1

[Open Order Set](#) [Do Not Open](#) [GEN Adult Sepsis/Severe Sepsis Focused Preview](#)

Acknowledge Reason _____

[Continue to Assess \(Suppress for 15mins\)](#) [Sepsis Orders Initiated](#) [Not Applicable/No suspected Infection](#)

[Accept](#)

The sepsis Best Practice Advisory will also appear within inpatient navigators until the patient no longer meets a model threshold of ≥ 4 . Inpatient providers can then access the Sepsis Checklist Report by clicking on the blue hyperlink.

This patient's early detection of sepsis score indicates a HIGH RISK!
A score ≥ 4 indicates high risk. Review the Sepsis Checklist report below.

[Sepsis Checklist Report](#)

[Collapse](#)

Emergency Provider Best Practice Advisories

Emergency providers will encounter the following Best Practice Advisory (BPA) when a patient is identified as high risk for sepsis. When this BPA appears, emergency providers should click the blue hyperlink to access and document within the **Sepsis Quick List Activity** or select an **Acknowledged Reason** for bypassing the BPA. This BPA cannot be dismissed or closed.

The sepsis BPA specifically looks if **Lactate,Sepsis** has been ordered; this is available in the Sepsis Quick List section. If the lab has been ordered the BPA will not trigger for 6 hours.

BestPractice Advisory - Zztest, Sepsis

Important (1)

This patient's early detection of sepsis score indicates a HIGH RISK! A score ≥ 4 indicates high risk
Consider initiating sepsis treatment via the Sepsis Quick List orders activity below.

Predictive Model Details

6 (High)
Calculated 1/30/2019 09:35
Early Detection of Sepsis Model

Factors Contributing to Score

40%	SIRS temperature criterion is met
35%	SIRS pulse criterion is met
23%	Age is 75
2%	Sex is male

[Click for Sepsis Quick List Orders](#)

Acknowledge Reason

[Continue to Assess \(Suppress for 15mins\)](#) [Sepsis Orders Initiated](#) [Not Applicable/No suspected Infection](#)

[Accept](#)

The sepsis Best Practice Advisory will also appear within the ED Navigator until the patient no longer meets a model threshold of ≥ 4 . Emergency providers can then access the Sepsis Checklist Report by clicking on the blue hyperlink.

This patient's early detection of sepsis score indicates a **HIGH RISK!**
A score ≥ 4 indicates high risk. Review the Sepsis Checklist report below.

[Sepsis Checklist Report](#)

Additional Sepsis Screening Tools

Sepsis Checklist Report

The Sepsis Checklist Report is available to all providers and nurses within their Track Board and Patient List views. This report is also available within the Summary Activity. This report provides an “at a glance” opportunity to review sepsis values and a graphical representation of the patient’s risk.

This report can be added within the Track Board, Patient List, and Summary by:

1. Searching the **Sepsis Checklist** report from within the search field
2. Clicking the wrench icon and adding the Sepsis Checklist report.

No Blood Cultures Ordered

ED Events

Date/Time	Event	User	Comments
10/22/18 1417	Patient arrived in ED		

Vitals (last day)

Date/Time	Temp	Pulse	Resp	BP	SpO2	Weight
10/22/18 2039	97.4 °F (36.3 °C)	85	20	109/64	97 %	--
10/22/18 1922	--	93	16	119/60	94 %	--
10/22/18 1424	97.1 °F (36.2 °C)	94	18	111/76	94 %	200 (90.7)

Sepsis Labs

Component	Value	Units
Lactic Acid, Plasma [49255251]		Collected: 10/22/18 1610
Updated: 10/22/18 1636		
Specimen Type: Blood		
Specimen Source: Blood		
Lactic Acid		

Antibiotics & Fluid Bolus (last 24 hours)

Date/Time	Action	Medication
10/23/18 0624	Due	0.9 % sodium chloride
10/22/18 2135	Due	ciprofloxacin (CIPRO)
10/22/18 2035	New Bag	ciprofloxacin (CIPRO)
10/22/18 2035	Given	metroNIDAZOLE (MID)
10/22/18 1754	New Bag	0.9 % sodium chloride

Early Detection of Sepsis

Terrance L. Garczynski

5 High

3.9 - 10 High
2.1 - 3 Moderate
0 - 2 Low

18% SIRS WBC criterion is met	3% Diagnosis of obesity is present
15% Age is 60	2% Number of active betalactam orders is 1
12% Diagnosis of hypertension is present	2% Sex is male
11% Lymphocytes is low (6 %)	1% RDW is high (17.9 %)
8% Diagnosis of diabetes mellitus is present	1% Number of peripheral IVs is 1
7% Diagnosis of chronic kidney disease is present	1% Hemoglobin is low (8.6 g/dL)
7% MCHC is low (24.5 pg)	<1% Diagnosis of CAD is present
4% Number of active fluoroquinolone orders is 1	<1% Number of active antiemetic/antivertigo orders is 1
3% Number of active vancomycin orders is 1	<1% Number of active saline orders is 1
3% Hematocrit is low (30.1 %)	<1% Monocytes is normal (7 %)
3% Number of active analgesic narcotic orders is 3	

Sepsis Patient List Column

The sepsis patient list column is available to all inpatient users. This can be added by searching and adding the **Sepsis** report from within the properties of the customized patient list. To view the properties of a customized list, right click on the list and click Properties.

The patient list column will display the sepsis risk score for each patient. Low values will not be highlighted. Sepsis risk scores of three will be highlighted in yellow. Scores of four or greater will be highlighted in red. The details of the score can be displayed by hovering over the sepsis score within the column.

Patient Name	Bed	Age/Gendr	DOB	Sepsis	Diagnosis	Isolation/Infection	Length of Stay (Days)	Attending	Service	Privat Encou
CreditCard, Mlozadmitted	W467-01	40 y.o.	1/16/1978	2						
CreditCard, MLOZFiveAdmitted	W464-01	40 y.o.	1/16/1978	6						
CreditCard, MLOZFourAdmitted	0915-01	40 y.o.	1/16/1978	1						
CreditCard, MLOZOneAdmitted	0912-01	40 y.o.	1/16/1978	3						
CreditCard, MLOZSixAdmitted	W465-01	40 y.o.	1/16/1978	1						

Early Detection of Sepsis
Mlozadmitted CreditCard — Score calculated: 10/23/2018 14:12

2
Low

Factors Contributing to Score

- 26% Diagnosis of hypertension is present
- 25% Number of active vancomycin orders is 4
- 21% Age is 40
- 18% Number of active betalactam orders is 4
- 6% Number of active analgesic narcotic orders is 3
- 3% Number of active saline orders is 8
- 2% Relationship status is married
- <1% Number of active antiemetic antivertigo orders is 1

Sepsis Track Board Column

The sepsis track board column is available to all emergency department users by default.

The patient list column will display the sepsis risk score for each patient. Low values will not be highlighted. Sepsis risk scores of three will be highlighted in yellow. Scores of four or greater will be highlighted in red.

Bed	Patient	Age	Complai A	72H 30C	LOS	Lab Stat	Rad St	EKG PH	ML	Nurse	Unz Resu	Dispi	Bed A	Con	MC	Sepsis	Cor	Exp	Req
030A	Zztest, Sepsis (75 y.o. M)	75 y.o.			0...											6			X
005A	Zztest, Sillything (40 y.o. F)	40 y.o.			4...											4			X
E	Roundtwo, Testtwo (88 y.o. M)	87 y.o.		2	6...						★					3			X
031A	Xxridgeway, Ac Unk (169 y...)	168 y.o.			8...							D...				2			X
CDU2	Xxhavana, Ac Unk (169 y.o. U)	168 y.o.			8...	[0/0/1]					★		D...			2			X
035A	Xxzwingle, Ac Unk (139 y.o. U)	138 y.o.			3...	[1/1... [0/1]					★		D...			2			X
023A	Xxblanchard, Ac Unk (139 y....)	138 y.o.			2...	[1/1... [0/1]					★		D...			2			X