

# Surviving Sepsis: COVID-19 Edition! How Coronavirus Disease 2019 (COVID-19)

## Impacted Sepsis Performance



COVID-19 Crusaders: Stacia Gandee, Alexis Wells, Kathy Watts, Jessica Aguilar, Rose Aono, Amanda Lewis, Dr. Jessica Kirby, Dr. Brad Silver, Dr. Jocelyn Zee, Dr. Sundeep Pattar, Dr. Forrest "Dell" Moore, Dr. Jason Brewington

### Introduction

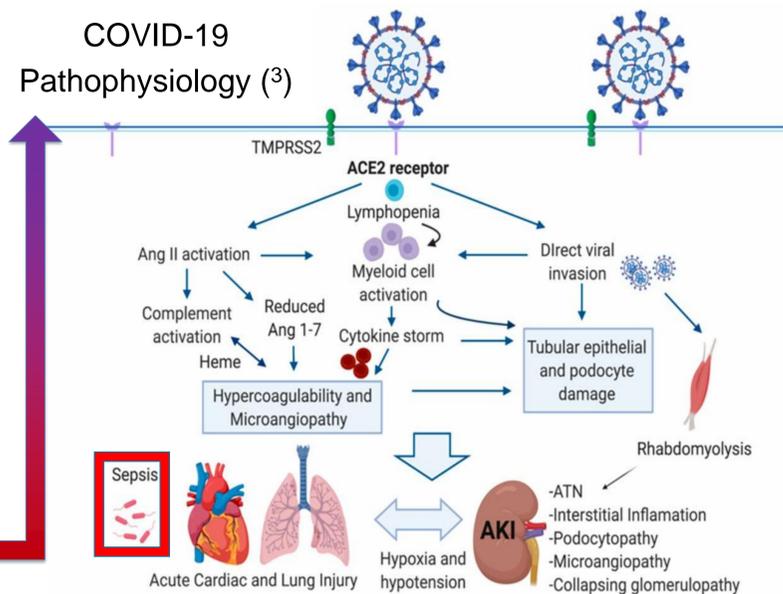
- ❖ Prior to coronavirus, **sepsis carried a global mortality rate of almost 20%** of all deaths according to WHO. In 2019, JPS's **average mortality rate** for sepsis was **less than 9%**!
- ❖ Sepsis still remains one of the **top diagnoses treated here** at John Peter Smith (JPS). In 2019, there was an average of **180 discharges**.
- ❖ By the end of FY2019, the **SEP-1 Bundle compliance rate** was at an **average of 89.6%**
- ❖ Sepsis is also one of the **top denied diagnosis** for reimbursement at JPS. In 2019, there was an **average of 6 denials** and **~\$24,000 at risk a month**.

### Sepsis and COVID-19

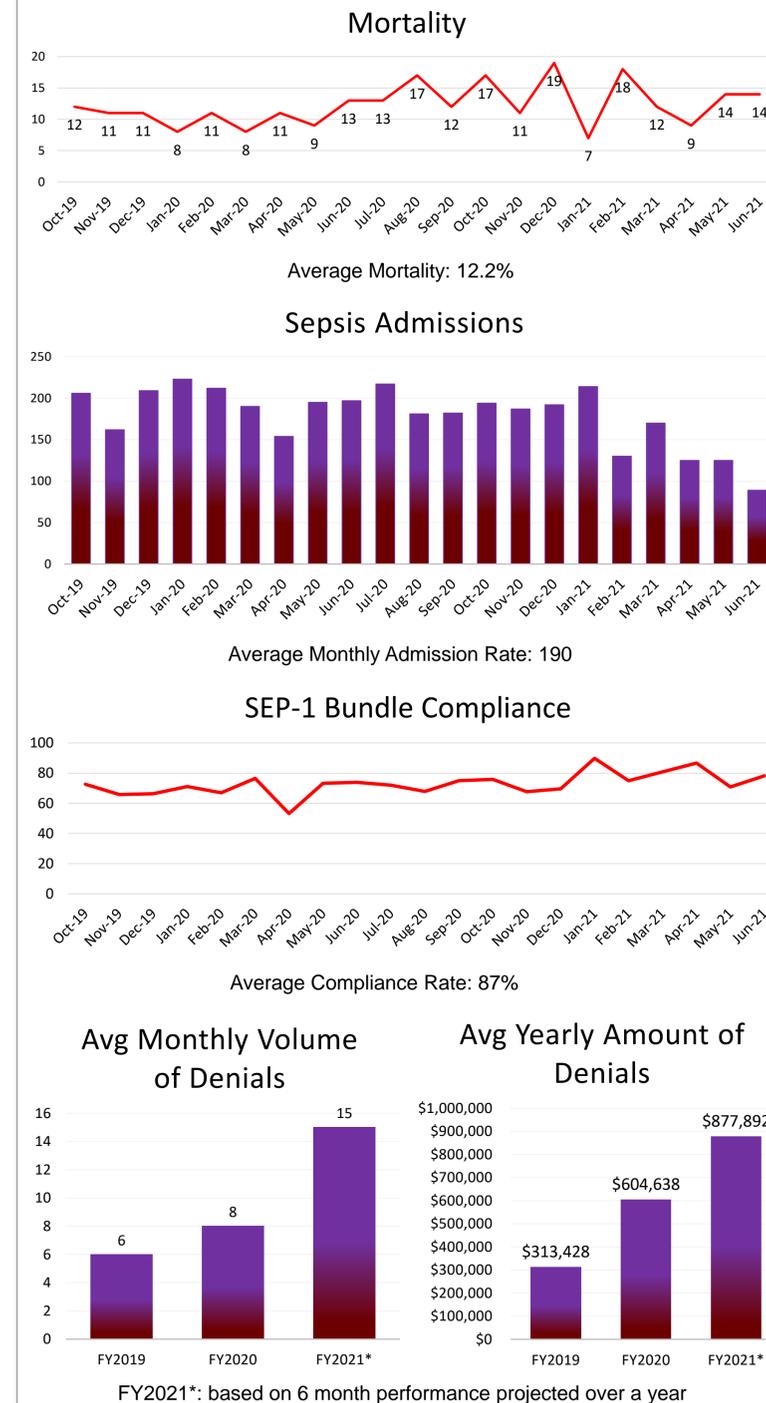
- ❖ Currently, there are differing definitions for when sepsis is present in a patient (sepsis-2 vs sepsis-3 definition).
- ❖ Insurance company stance on identifying sepsis: "While diagnostic criteria such as SIRS (sepsis-2) as well as inflammatory, hemodynamic, and tissue perfusion parameters can be helpful diagnostic tools, they are not independently specific for sepsis. **The physiologic changes attributed to sepsis should represent an acute alteration from baseline in the absence of other known causes for such abnormalities, or expected findings with the local infection (sepsis-3)**".
- ❖ There are also differing opinions regarding when sepsis is present in a patient with active COVID-19 infection.
- ❖ So how do we identify where COVID-19 ends, and sepsis begins?

### Impact of COVID-19 on Metrics

- ❖ **SEP-1:** Core measure is a performance metric set forth by CMS to measure compliance with early identification and treatment of severe sepsis and septic shock patients (1).
- ✓ Initial population is based on coded data: coded data is based on documentation ONLY
- ✓ As of **January 2021**, CMS automatically **EXCLUDES** any septic patient that also has COVID-19 coded (ICD-10 CM: U07.1)
- ❖ **PSI-13:** Postoperative Sepsis, is another performance metric set for by CMS to identify and measure potential in-hospital patient safety issues with poor patient outcomes (2).
- ✓ Population is based on coded data: coded data is based on documentation ONLY
- ✓ No exclusion for COVID-19 patients BUT metric only includes elective admits with a surgery



### Results



### Conclusion

- ✓ JPS identifies sepsis in a COVID-19 infected patient with evidence of organ dysfunction or if there is evidence of a superimposed bacterial infection causing the SIRS.
- ✓ The current national average for SEP-1 bundle compliance is 60%. After the initial shock of COVID-19, the SEP-1 bundle compliance has remained above average, even as high as 89.8%!
- ✓ Denials continue to rise, even though SEP-1 bundle compliance remains high and mortality rate remains below national average, reflecting it is not a care problem, but a documentation problem. JPS has adopted new terminology starting April 2021:

Documentation Tips for Early Sepsis, Severe Sepsis, and Septic Shock

<p><b>Early Sepsis</b></p> <p>Early sepsis is when a patient meets SIRS due to infection but has not developed organ dysfunction.</p> <p>If the patient develops organ dysfunction, document if it's due to infection or due to non-infectious process.</p> <p>If due to infection, document severe sepsis and START THE BUNDLE</p> <p>If the patient never develops organ dysfunction by time of discharge, document "ABORTED SEPSIS"</p>	<p><b>Severe Sepsis</b></p> <p><b>3hr Bundle Compliance:</b></p> <ul style="list-style-type: none"> <li>Blood cultures</li> <li>Lactic acid</li> <li>Antibiotics started AFTER cultures are drawn</li> <li>30mL/kg if hypotensive</li> </ul> <p><b>6hr Bundle Compliance:</b></p> <ul style="list-style-type: none"> <li>Repeat lactate if initial level was &gt; 2</li> </ul> <p>Document if patient refuses to receive fluid boluses</p> <p>Document which organ dysfunction is due to sepsis EX: AKI due to severe sepsis</p>	<p><b>Septic Shock</b></p> <p><b>6 hr Bundle Compliance:</b></p> <ul style="list-style-type: none"> <li>Vasopressors</li> <li>Tissue perfusion assessment completed</li> </ul> <p>Use smartphrases:</p> <p><b>.SEPSISGHR</b> to document the perfusion assessment</p> <p><b>.SEPSISBMI</b> to document when the ideal body weight was used to calculate the 30mL/kg fluid bolus when BMI &gt; 30</p>
--	--	--

### References

(1): Qualitynet.cms.gov. (2021). *Sepsis resources*. Retrieved from <https://qualitynet.cms.gov/inpatient/specifications-manuals>

(2): AHRQ.gov. (2021). *Patient safety indicators overview*. Retrieved from [https://www.qualityindicators.ahrq.gov/Modules/psi\\_resources.aspx](https://www.qualityindicators.ahrq.gov/Modules/psi_resources.aspx)

(3): Battle, D., Soler, M.J., Sparks, M.A., Hiremath, S., South, A.M., Welling, P.A., et al. (2020). *Acute Kidney Injury in COVID-19: Emerging Evidence of a Distinct Pathophysiology*. Journal of the American Society of Nephrology, 31(7). DOI: <https://doi.org/10.1681/ASN.2020040419>