**FMDA Quality Advocacy Coalition (FQAC)**

**A Statewide Call to Action: The Sepsis Medical Emergency**

**Sepsis Summit: *Improving Patient Outcomes***

***— Preventing Avoidable Hospital Readmissions***

June 4, 2019

Patrick Nelson, BA, MPH Candidate, 2019 (expected); Member Services Associate, FMDA

**The Crisis**

Sepsis has become a concern in hospital settings as nearly half of all hospital deaths in the United States are caused by sepsis (McDonough, 2018). To exacerbate this, hospital readmission rates in Florida have slowly crept above the national average for Medicare patients in the past five years to an average of 15.5% in 2018; challenges associated with these findings have to do with a high percentage of ICU use, a lack of home health workers, a high prevalence of excess drinking, and a lack of infection policies associated with health care (The Dartmouth Atlas…, 2019). This is not unique to Medicare patients though. Medicaid patients have historically had higher readmissions rates for sepsis both after 7 and 30 days (Fingar, Barrett & Jiang, 2017). Regardless, sepsis is a growing issue in Florida that needs to be addressed.

**National Data**

 In the U.S., sepsis hospitalizations account for a higher proportion of unplanned 30-day readmissions than hospitalizations for heart attack, heart failure, COPD, and pneumonia as well as having an increased average length of stay; about 12.2% of patients had sepsis on readmission (Mayr, Talisa, Balakumar, Chang, Fine & Yende, 2017). This is better than Florida’s outcomes, where about twice as many patients (27%) of readmission were due to infections (Lavernia, Villa, & Iacobelli, 2013). Furthermore, one-third of sepsis survivors are readmitted nationally within 30 days and seem to have higher quality care: measures of higher quality in-hospital care are correlated with higher readmission rates (Norman, Cooke, Ely & Graves, 2017).

**Identification of Sepsis**

The main confounding factor for the failure to identify sepsis is because there is no evidence-based definition of sepsis in post-acute or long-term patients; criteria varies from skilled nursing facility (SNF) to SNF, and any acute change could be possible sepsis (Pathway-INTERACT, 2018). In spite of this disagreement, there are methods to identify sepsis in the post-acute and long-term care setting such as the “100/100/100 criteria” recommended by the Minnesota Hospital Association, and the quick Sepsis Related Organ failure Assessment or qSOFA (Pathway-INTERACT, 2018). These offer a measure of respite to hospitals, though with the recent redefining of sepsis (Sepsis-3) and the updated Surviving Sepsis Campaign goals which focus on the early identification of sepsis, these proponents can be applied to the nursing home setting as well (Mylotte, 2019).

**Best Practices in SNFs**

 The early identification of sepsis is important to preventing the effects of the disease and saving lives (Early ID…, 2019). In 2015, Augusta Health Hospital employed an automated sepsis screening system for this purpose and saw a 36% drop in sepsis mortality since its implementation. More importantly, they found key takeaways such as leadership buy-in, having a physician “champion” or point-of-contact, and having alert systems with existing programs and hardware were essential to success (American Hospital Association, 2018). This means that in most SNFs lies the potential for updated sepsis policies at almost no extra cost. Other best practices include screening when one of four criteria for systemic inflammatory response syndrome (SIRS) is present (Kilgore, 2017), among others.

**Findings & Associations**

* In the U.S., 1 in 15 and 1 in 5 severe sepsis discharges are readmitted within 7 and 30 days, respectively (Donnelly, Hohmann, & Wang, 2015)
* In Florida, patients were more frequently readmitted if their payer was the government, they were discharged to a SNF, or they had a mental health disorder (Lavernia, Villa, & Iacobelli, 2013)
* Among patients who were readmitted within 30 days of a previous stay for septicemia or schizophrenia, those who were uninsured were readmitted earlier than patients with any type of health insurance coverage, Medicare & Medicaid included (Fingar, Barrett & Jiang, 2017)

**Possible Interventions & Recommendations**

 With new technology and bundled packages of treatment, new pathways are opening for the treatment of sepsis. A recent sepsis study at the University of Kansas demonstrated through stroke volume optimization that, aided by Cheetah technology (specifically, Cheetah Starling SV hemodynamic monitoring system and 100 percent non-invasive sensors), it led to a reduction in ICU length of stay of 2.9 days and reduced the risk of both mechanical ventilation and initiation of acute dialysis, as well as total hospital cost savings of over 1.4 million USD during the six-month study (Cantrell, 2018). This is only one possible solution; technology and software are at the tip of the iceberg in terms of meaningful interventions for sepsis. In any case, Florida needs to improve its sepsis readmission outcomes from 27% (Lavernia, Villa, & Iacobelli, 2013).

**References**

American Hospital Association (AHA). (2018). American Hospital Association. *The Value Initiative: Members in Action: Improve Quality & Patient Outcomes*. Retrieved from https://www.aha.org/system/files/2018-02/value-initiative-augusta-health.pdf.

Cantrell, S. (2018, March). Technology takes the lead in reducing sepsis. Retrieved from https://www.hpnonline.com/infection-prevention/article/13001108/technology-takes-the-lead-in-reducing-sepsis

Donnelly, J. P., Hohmann, S. F., & Wang, H. E. (2015). Unplanned Readmissions After Hospitalization for Severe Sepsis at Academic Medical Center–Affiliated Hospitals\*. *Critical Care Medicine,43*(9), 1916-1927. doi:10.1097/ccm.0000000000001147

Early ID of Sepsis in Texas Nursing Homes. (2019). Retrieved from https://www.tmf.org/Health-Care-Providers/Nursing-Homes/Early-ID-of-Sepsis-in-Texas-Nursing-Homes

Fingar, K., Barrett, M., & Jiang, J. (2017, October). A Comparison of All-Cause 7-Day and 30-Day Readmissions, 2014. Retrieved from https://hcup-us.ahrq.gov/reports/statbriefs/sb230-7-Day-Versus-30-Day-Readmissions.jsp

Kilgore, C. (2017). Evolving Sepsis Criteria and New Management Guidelines Hold Lessons for PA/LTC. *Caring for the Ages,18*(7), 8. doi:10.1016/j.carage.2017.06.007

Lavernia, C. J., Villa, J. M., & Iacobelli, D. A. (2013). Readmission Rates in the State of Florida: A Reflection of Quality? *Clinical Orthopaedics and Related Research®,471*(12), 3856-3862. doi:10.1007/s11999-013-2849-2

Mayr, F.B., Talisa, V.B., Balakumar V., Chang, C.H., Fine, M., & Yende, S. (2017). Proportion and Cost of Unplanned 30-Day Readmissions After Sepsis Compared With Other Medical Conditions. *JAMA*. 317(5):530–531. doi:10.1001/jama.2016.20468

Mylotte, J.M. (April, 2019). *What is the role of nursing homes in the Surviving Sepsis Campaign?*

Norman, B. C., Cooke, C. R., Ely, E. W., & Graves, J. A. (2017). Sepsis-Associated 30-Day Risk-Standardized Readmissions. *Critical Care Medicine,45*(7), 1130-1137. doi:10.1097/ccm.0000000000002476

The Dartmouth Atlas of Health Care. (2019). Senior report. Retrieved from https://www.americashealthrankings.org/explore/senior/measure/hospital\_readmissions\_sr/state/FL

Pathway-INTERACT. (2018, January 11). INTERACT Guidance on Management of Possible Sepsis. Retrieved from <http://www.pathway-interact.com/2018/01/04/interact-guidance-on-management-of-possible-sepsis/>

**Sepsis Post-Acute Care Training Toolkit**

Sourced from: https://www.tmf.org/Health-Care-Providers/Nursing-Homes/

Early-ID-of-Sepsis-in-Texas-Nursing-Homes

**Training Materials**

* [Sepsis Education Training Toolkit Instructions - https://www.tmf.org/Portals/0/Documents/CMP/Sepsis%20Education%20Training%20Toolkit%20Instructions.pdf](https://www.tmf.org/Portals/0/Documents/CMP/Sepsis%20Education%20Training%20Toolkit%20Instructions.pdf) (PDF)
* [Post-Acute Care Training: Early Identification and Treatment of Sepsis](https://www.tmf.org/Portals/0/Documents/CMP/PostAcuteCareTrainingPPTandVideo.zip) - <https://www.tmf.org/Portals/0/Documents/CMP/PostAcuteCareTrainingPPTandVideo.zip> (72MB ZIP, includes PowerPoint Presentation and MP4 Video)
* [Onsite Training Sign-In Sheet](https://www.tmf.org/Portals/0/Documents/CMP/CMP%20SignIn_508.pdf) - <https://www.tmf.org/Portals/0/Documents/CMP/CMP%20SignIn_508.pdf> (PDF)
* [Corporate Training Sign-In Sheet](https://www.tmf.org/Portals/0/Documents/CMP/CMP%20Corporate%20SignIn_508.pdf) - <https://www.tmf.org/Portals/0/Documents/CMP/CMP%20Corporate%20SignIn_508.pdf> (PDF)

**Video**

* Sepsis Early Identification and Treatment
	+ [Recorded Webinar](https://youtu.be/purG5RftFFs) - <https://youtu.be/purG5RftFFs>
	+ [Transcript](https://www.tmf.org/portals/0/Documents/CMP/Sepsis_ID-and_Treatment_transcript_508.pdf) - <https://www.tmf.org/portals/0/Documents/CMP/Sepsis_ID-and_Treatment_transcript_508.pdf> (PDF)

**Sepsis Clinical Tools**

* [Post-Acute Care Sepsis Early Identification and Treatment Pathway](https://www.tmf.org/Portals/0/Documents/CMP/CMP%20Post%20Acute%20Care%20Pathway-FINAL_rd_508.pdf) - <https://www.tmf.org/Portals/0/Documents/CMP/CMP%20Post%20Acute%20Care%20Pathway-FINAL_rd_508.pdf> (PDF)
* [SBAR for Sepsis: Rehabilitation, Long-Term Acute Care, Nursing Home](https://www.tmf.org/Portals/0/Documents/CMP/CMP%20Sepsis%20SBAR_508.pdf) - <https://www.tmf.org/Portals/0/Documents/CMP/CMP%20Sepsis%20SBAR_508.pdf> (PDF)
* [Quick Reference Guide](https://www.tmf.org/Portals/0/Documents/CMP/Think%20Sepsis%20Quick%20Reference%20Guide.pdf) - <https://www.tmf.org/Portals/0/Documents/CMP/Think%20Sepsis%20Quick%20Reference%20Guide.pdf> (PDF)
* [Sepsis Stoplight Zone Tool: Signs and Symptoms of Sepsis at Home](https://www.tmf.org/Portals/0/Documents/CMP/Sepsis%20Stoplight%20Zone%20Tool_Signs%20and%20Symptoms%20of%20Sepsis%20at%20Home.pdf) - <https://www.tmf.org/Portals/0/Documents/CMP/Sepsis%20Stoplight%20Zone%20Tool_Signs%20and%20Symptoms%20of%20Sepsis%20at%20Home.pdf> (PDF)

**Training Assessments**

* [Sepsis Education Pre-Assessment](https://www.tmf.org/Portals/0/Documents/CMP/CMP%20Sepsis%20Ed%20Pre-Assessment_508.pdf) - <https://www.tmf.org/Portals/0/Documents/CMP/CMP%20Sepsis%20Ed%20Pre-Assessment_508.pdf> (PDF)
* [Sepsis Education Post-Assessment](https://www.tmf.org/Portals/0/Documents/CMP/CMP%20Sepsis%20Ed%20Post-Assessment_508.pdf) - <https://www.tmf.org/Portals/0/Documents/CMP/CMP%20Sepsis%20Ed%20Post-Assessment_508.pdf> (PDF)
* [Sepsis Education Assessment Answer Test Key](https://www.tmf.org/Portals/0/Documents/CMP/Sepsis%20Education%20Assessment%20Answer%20Key.pdf) - <https://www.tmf.org/Portals/0/Documents/CMP/Sepsis%20Education%20Assessment%20Answer%20Key.pdf> (PDF)
* [Sepsis Education Evaluation](https://www.tmf.org/Portals/0/Documents/CMP/CMP%20Sepsis%20Training%20Evaluation_508.pdf) - <https://www.tmf.org/Portals/0/Documents/CMP/CMP%20Sepsis%20Training%20Evaluation_508.pdf> (PDF)

**Additional Handouts**

* [Early Identification of Sepsis Saves Lives](https://www.tmf.org/Portals/0/Documents/CMP/Sepsis%20Early%20ID-FINAL_508.pdf) - <https://www.tmf.org/Portals/0/Documents/CMP/Sepsis%20Early%20ID-FINAL_508.pdf> (PDF)
* [Sepsis: What Is It? Flyer](https://www.tmf.org/Portals/0/Documents/CMP/What%20is%20Sepsis%20Flyer_CMP_508.pdf) - <https://www.tmf.org/Portals/0/Documents/CMP/What%20is%20Sepsis%20Flyer_CMP_508.pdf> (PDF)
* [Sepsis: Every Minute Counts!](https://www.tmf.org/Portals/0/Documents/CMP/Every%20Minute%20Counts%20Flyer_CMP_508.pdf) - <https://www.tmf.org/Portals/0/Documents/CMP/Every%20Minute%20Counts%20Flyer_CMP_508.pdf> (PDF)

**Tools Available in Spanish**

* [Post-Acute Care Sepsis Early Identification and Treatment Pathway](https://www.tmf.org/Portals/0/Documents/CMP/CMP%20Post%20Acute%20Care%20Pathway-FINAL%20Spa_rd_508.pdf) - <https://www.tmf.org/Portals/0/Documents/CMP/CMP%20Post%20Acute%20Care%20Pathway-FINAL%20Spa_rd_508.pdf> (PDF)
* [Quick Reference Guide](https://www.tmf.org/Portals/0/Documents/CMP/Quick%20Reference%20Guide_SPA_508.pdf) - <https://www.tmf.org/Portals/0/Documents/CMP/Quick%20Reference%20Guide_SPA_508.pdf> (PDF)
* [Sepsis: Every Minute Counts!](https://www.tmf.org/Portals/0/Documents/CMP/Every%20Minute%20Counts%20Flyer_Spa_508.pdf) - <https://www.tmf.org/Portals/0/Documents/CMP/Every%20Minute%20Counts%20Flyer_Spa_508.pdf> (PDF)
* [Sepsis Stoplight Zone Tool: Signs and Symptoms of Sepsis at Home](https://www.tmf.org/Portals/0/Documents/CMP/Sepsis%20Stoplight%20Zone%20Tool_Signs%20and%20Symptoms%20of%20Sepsis%20at%20Home_Spa.pdf) - <https://www.tmf.org/Portals/0/Documents/CMP/Sepsis%20Stoplight%20Zone%20Tool_Signs%20and%20Symptoms%20of%20Sepsis%20at%20Home_Spa.pdf> (PDF)

[Sepsis: What Is It? Flyer](https://www.tmf.org/Portals/0/Documents/CMP/What%20is%20Sepsis%20Flyer_Spa_508.pdf) - <https://www.tmf.org/Portals/0/Documents/CMP/What%20is%20Sepsis%20Flyer_Spa_508.pdf>