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A Quality Improvement Initiative to Reduce Time to Antibiotics in Oncologic Neutropenic Fever

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SKMC Class of 2022

Abstract: A Quality Improvement Initiative to Reduce Time to Antibiotics in
Oncologic Neutropenic Fever
Jordan Villars, Adam Binder*

Introduction: This paper documents a Quality Improvement (QI) initiative using Plan-Do-Study-Act (PDSA) cycles to decrease time to antibiotics (TTA) in oncologic neutropenic fever (NF) patients in a large tertiary-care academic medical center to the national guideline target of 60 minutes.

Methods: We measured baseline NF TTA across hospital units in the summer of 2018 and analyzed factors underlying delays in antibiotic treatment. We then developed a multi-disciplinary team to implement four proposed interventions:

1. Ensure that oncology floors are appropriately stocked with antibiotics required for initial NF treatment
2. Implement a nursing based order set for treatment of new NF cases.
3. Develop revised guidelines for treatment of oncologic NF
4. Create and disseminate educational materials for house staff about treatment of NF.

NF TTA was measured after implementation of each intervention and stakeholder groups were held to assess challenges and successes with each intervention. Following this, interventions would be continued, revised, or abandoned.

Results: Results from pilot implementation of interventions 1 & 3 showed a decrease in median TTA to 73 minutes compared to 117.5 minutes in the baseline period. Based on these results, interventions 1 and 3 were adopted as standard practice in summer 2019 and 4 was implemented in December 2019.

Conclusion: This study shows the utility of the PDSA cycle approach in implementing initiatives designed to improve time sensitive aspects of hospital care. Ongoing efforts are needed to meet national guidelines with a goal TTA of 60

minutes. We feel our methodology is reproducible for similar problems in other fields of medicine and flexible enough to be scalable to other institutions.