Time is Gold in Sepsis

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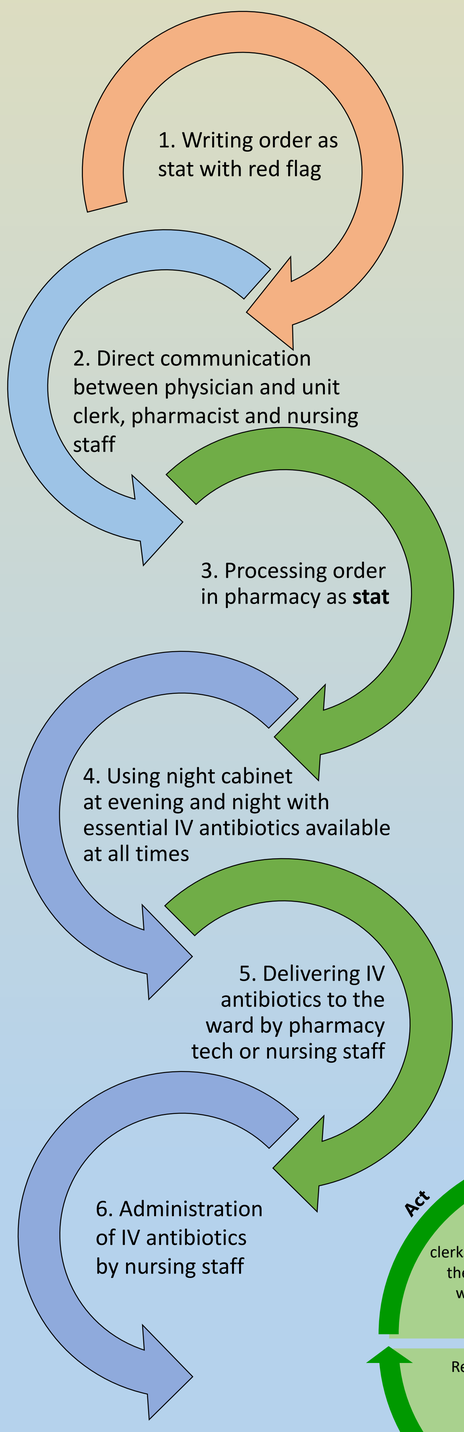
Aim: Reducing the time of IV antibiotics order to administration for hospitalist septic patients by 50% by June 2019 at RMH

Background

Sepsis is one of the major mortality and morbidity causes of hospitalized patients. About 30,000 Canadians are affected by sepsis every year. Mortality is about 30%. Early treatment of sepsis with IV antibiotics reduces mortality about 8% per hour. Survival rate is 79.9% if effective treatment administered within 1 hour of documented hypotension**.** Rapid completion of 3 hour bundle of lactate measurement, blood culture and IV antibiotics reduce mortality and morbidity for hospitalized patients. Hospitalized sepsis is one of the six patient safety priority for FHA. This QI project is focusing on improving the process of delivering IV antibiotics as a main treatment for septic patients at RMH.

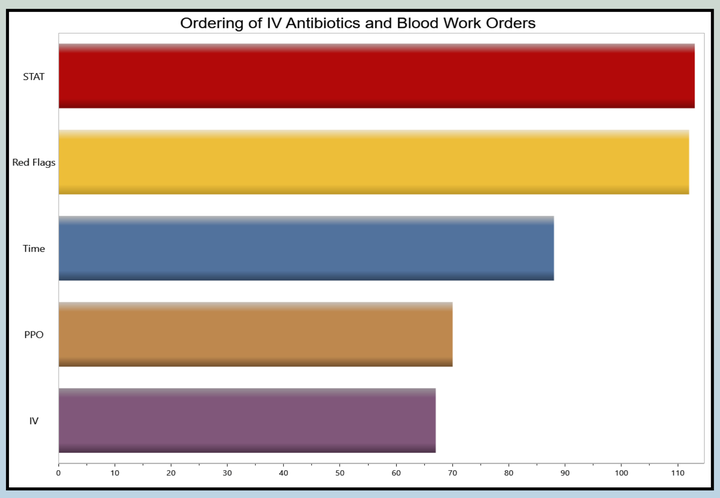
Project Design & Strategy

The project was designed based on the flow process from the time of sepsis diagnosis and IV antibiotics are ordered by hospitalist to the time that IV antibiotics are administered to the patient by nurse.



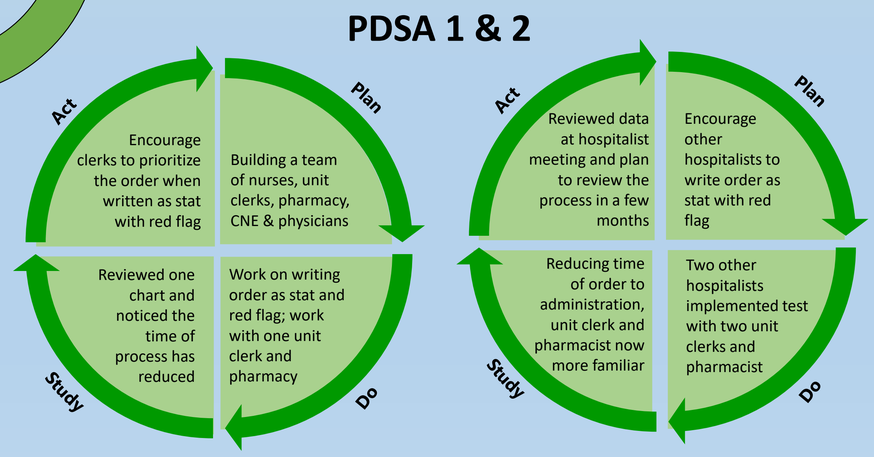
Changes Made

- Writing the order as stat with red flag
- Direct communication with nursing or unit clerk to prioritize the order
- Use of sepsis pre-printed order (PPO) when a septic patient is suspected



Survey of 30 staff (hospitalists, nurses, unit clerks, pharmacist, unit manager) showed the five most important steps to improve the process are: writing or verbally indicating stat order, using red flag as stat, writing the time of order and time the antibiotics should be given, using sepsis PPO, availability of broad-spectrum antibiotics and IV access

PDSA 1 & 2



Team

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Results

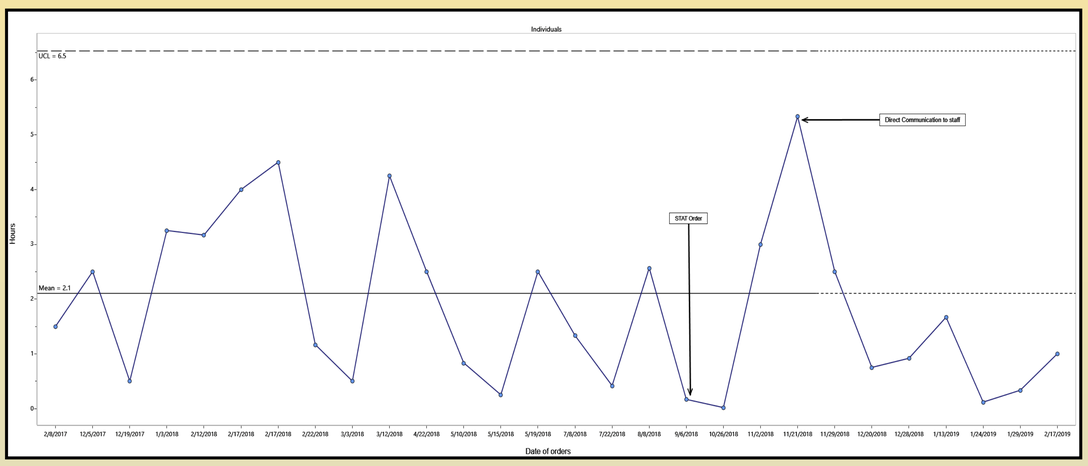

Figure 1. Outcome Measure: Time from physician order IV antibiotics to administration

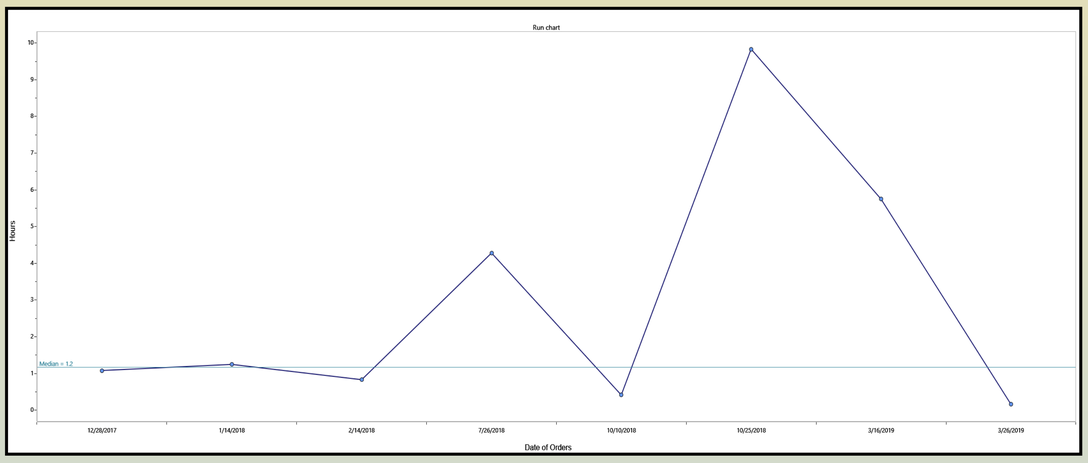

Figure 2. Process Measure: Time between physician order IV antibiotics to administration without time indication on the chart

Lessons Learned

- Education and team work is the key component of diagnosis and treatment of sepsis.
- Engaging physicians about importance of time, using STAT orders and use of PPO has been challenging (e.g. engaging physicians to write time of order). Physician engagement is a very important part of process improvement.
- Nurse administration of the antibiotics in a timely fashion in septic patients is also a challenge, especially in the evening or night. Education about sepsis and availability of a broad spectrum of antibiotics at night is important.

Next Steps

1. Continue to work with health care team to expand the current PDSA cycles to more patients
2. Involvement of RMH MSA directors who are very supportive to expand and continue the project
3. Providing teaching materials to Clinical Nurse Educator and nursing staff re: importance of diagnosis and treatment of sepsis
4. Report findings of the PDSA cycles with hospitalist group at RMH and regional sepsis group; sharing new knowledge with all Fraser Health sites
5. Work on new Sepsis PPO with regional sepsis group

References

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