

# OPTIMIZING THE ELECTRONIC HEALTH RECORD (EHR) SYSTEM TO ENHANCE THE BLOOD TRANSFUSION PROTOCOL

Joan Myers-Harrison RN, BScN, CON(C); Lisa Lun RN, BScN, MA(Ed), CHPCN(C), Helen Hou RN, CON(C); Francis Cacao RN, BScN, MN; Rachelle Soogree RN, BScN, MN, CON(C); Shirley Goguen RN; Mark Navarro RN, BScN, CON(C); Dr. Carmen Chung MD, FRCPC; Dr. Vighnesh Bharath MD, FRCPC; Suzi Laj RN, BN, MHS



## DESCRIPTION

Blood transfusion is a primary intervention for patients with cancers affecting bone marrow and production of blood cells. At Humber River Health (HRH) Cancer Care Clinic, the increased volume of patients receiving blood transfusions combined with acute health human resources shortages resulted in increased workload, inefficient workflow, and negative patient experiences. A blood transfusion protocol order set is embedded in the Computerized Physician Order Entry (CPOE) as part of the EHR. However, opportunities exist to optimize its functionalities, such as built-in pre-approved orders with clinical parameters. The Oncology team launched an initiative to improve blood transfusion processes and patient satisfaction.

## OBJECTIVE

To enhance the blood transfusion protocol to improve patient care and staff satisfaction by optimizing the CPOE system.

## ACTIONS TAKEN

- Review and consultation with Clinic Nurses, Hematologists/Oncologists and HRH Blood Bank.
- Enhancement of Cancer Care Clinic blood transfusion order set to include the identified parameters.
- Development of transfusion specific documentation by Clinical Informatics.
- Educational in-services for physicians, nursing, and clerical based on updated transfusion parameters.
- Communication of new blood transfusion protocol and processes to the Laboratory and Blood Bank team at HRH.
- The CPOE-optimized blood transfusion protocol was implemented. The team executed several interventions to improve protocol utilization using multi-faceted Plan-Do-Study-Act (PDSA) cycles.

## SUMMARY OF RESULTS

The inter-professional team and patients have positive feedback about using the new blood transfusion protocol with pre-approved orders and clinical parameters built into the CPOE. Anecdotal feedback from Physicians, Nurses, Clerks, and Blood Bank Staff expressed clear clinical orders, efficient workflows, and improved workloads. Patients were satisfied with the improved wait times, elimination of unnecessary delays and interruptions during treatment.

## LESSONS LEARNED

The enhancement of the blood transfusion protocol in the Cancer Care Clinic through CPOE optimization improves work satisfaction, patient safety, quality of care, and overall clinical outcomes.

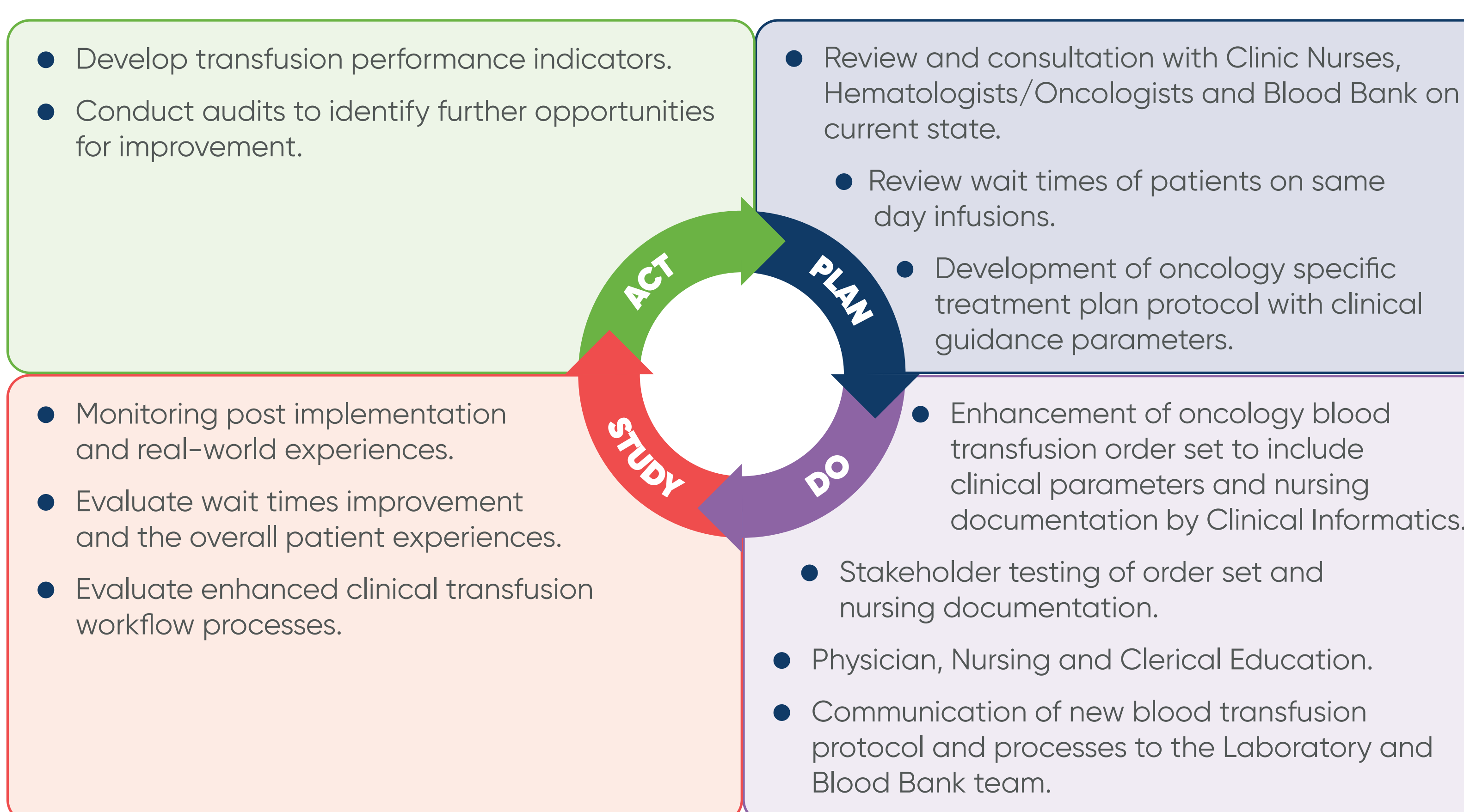


Figure 1. PDSA Cycle.

Include <input checked="" type="checkbox"/> Interventions <input type="checkbox"/> Outcomes <input type="checkbox"/> Regulatory						
Look ahead 8 hours						
	Care Item			Last Done	Status/Due	NOW
A	Acute Infusion Reaction	.PRN	P			
A	Cancer Care Well Follow Up	.PRN				
A	Cancer Systemic Therapy Health Teaching	.QVISIT &...	P			
A	Cancer Systemic Therapy Toxicity	.QVISIT &...	P			
AO	Clinical Parameters - Packed Cell (RBCs)	.AS DIRECTED	P			

Figure 2.

HRH Cancer Care Clinic - Transfusion Needs Parameters Documentation.

Interventions		
Clinical Parameters - Packed Cell (RBCs) .AS...		✓
Assessments		
Clinical Parameters		✓
Transfusion Clinical Parameters		
Low Transfusion Needs	<input type="radio"/> Hgb 70 or greater: no transfusion <input type="radio"/> Hgb 60 to 69: transfuse 1 unit PRBC and notify MD <input type="radio"/> Hgb 59 or less: transfuse 2 units PRBC and notify MD	
Intermediate Transfusion Needs	<input type="radio"/> Hgb 80 or greater: no transfusion <input type="radio"/> Hgb 70 to 79: transfuse 1 unit PRBC <input type="radio"/> Hgb 60 to 69: transfuse 2 units PRBC and notify MD <input type="radio"/> Hgb 59 or less: transfuse 2 units PRBC and notify MD	
High Transfusion Needs	<input type="radio"/> Hgb 80 to 89: transfuse 1 unit PRBC <input type="radio"/> Hgb 70 to 79: transfuse 2 units PRBC <input type="radio"/> Hgb 60 to 69: transfuse 2 units PRBC and notify MD <input type="radio"/> Hgb 59 or less: transfuse 2 units PRBC and notify MD	
Comments		