## Why give TWO, when ONE will do? Guideline directed packed red blood cell transfusion-An Interim analysis

**INTERNAL MEDICINE DEPARTMENT, CONEMAUGH MEMORIAL HOSPITAL.** 

## INTRODUCTION

Patient blood management emphasizes evidencebased, holistic care to optimize treatment for transfusion-needing patients, including minimizing transfusions.

- **PRIMARY ENDPOINT: Improve single unit blood** transfusions
- SECONDARY ENDPOINT: Improve restrictive transfusion

### **METHODOLOGY**

- Inclusion Criteria: Age >18yrs In-patient (Internal Medicine patients)

- Exclusion Criteria: Pregnant individuals Age <18yrs Patients requiring massive transfusions (>10U PRBC in 24h)

**DATA COLLECTION:** from Acumen (healthcare solutions company assisting Conemaugh hospital in efficient patient blood management).

# Asna Shahab, MD<sup>1</sup>. Zonghao Pan, MD<sup>2</sup>. Muhammad Junaid Khalid, MD<sup>3</sup>. Amna Amir, MD<sup>4</sup>. Bimala Upadhaya, MD<sup>5</sup>. Saba Waseem, MD<sup>6</sup>.

**STUDY DESIGN:** Three phases

#### **1.PHASE 1: July 2022**.

- Data collection from Acumen
- Modification of blood order set.

Units				✓ A	ccept	× <u>c</u>	ance
Routine		,o	Routine	STAT			
1	Units	1 Units					
Special requi	rements:			MV Neg ickle Ce egative ′ashed	ative II (Hgb		
at Orden		Sav	e as patien	t's requi	rement	s	
ct Order:							
nsfusion:							
Active Bleed	d Hemogle	obin <7.0	gm/dL He	emoglob	oin <8.0	) gm/d	IL .
Hemoglobir	n <9.0 gm/o	dL Hemo	dynamic In	stability			
Symptomat	ic Anemia	Surgery	Other (spe	cify)			
gnosis							
n: Allogeneic	Autologou	us Direct	ed				
it been pregr	nant or tran	sfused in t	the previou	s three i	months	?	
Yes No I	Unknown						
		erse reaction	ons to bloo	d produ	cts?		
	JIKHOWH						
ctuce7							
	Routine 1 Special requi Special requi ct Order:  ct Order:  nsfusion: Active Bleec Hemoglobir Symptomat gnosis  t been pregr Yes No  t had any pr Yes No  t had ba  Yes No  Yes No  Yes No  Yes No  Yes No  Yes No  Yes No	Routine   1   Special requirements:   Special requirements:   act Order:   active Bleed   Hemoglobin   Active Bleed   Hemoglobin   Symptomatic Anemia   gnosis   Symptomatic Anemia   gnosis   Allogeneic   Autologou   Yes   No   Yes   No   Yes   No   Units	Routine I   1 Units   1 Units   Special requirements:     Special requirements:     Image: Special requirements:     Image: Special requirements:     Image: Special requirements:     Special requirements:     Image: Special requirem	Routine Poutine   1 Units 1 Units   Special requirements: Image: I	Routine       Routine       STAT         1       Units       1 Units       Irradiated         Special requirements:       Irradiated       CMV Neg         Special requirements:       Irradiated       CMV Neg         None       Sickle Ce       Negative         Vashed       Save as patient's requirement's re	Routine       Routine       STAT         1       Units       1 Units         Special requirements:       Irradiated         Routine       CMV Negative         Sickle Cell (Hgb Negative)       Sickle Cell (Hgb Negative)         Image: None       Sickle Cell (Hgb Negative)         Image: Save as patient's requirement       Washed         Image: Save as patient's requirement       Sickle Cell (Hgb Negative)         Image: Save as patient's requirement       Sickle Cell (Hgb Negative)         Image: Save as patient's requirement       Sickle Cell (Hgb Negative)         Image: Save as patient's requirement       Sickle Cell (Hgb Negative)         Image: Save as patient's requirement       Sickle Cell (Hgb Negative)         Image: Save as patient's requirement       Sickle Cell (Hgb Negative)         Symptomatic Anemia       Surgery         Symptomatic Anemia       Surgery         Symptomatic Anemia       Surgery         Other (specify)       Signosis         Image: Save as patient's requirement       State Save Save Save Save Save Save Save Sav	Routine Routine   I Units   I Units   Special requirements: Irradiated   CMV Negative Sickle Cell (Hgb S)   None Sickle Cell (Hgb S)   Negative Washed   Save as patient's requirements   ct Order:   nsfusion: Active Bleed Hemoglobin <7.0 gm/dL Hemoglobin <8.0 gm/d Hemoglobin <9.0 gm/dL Hemoglobin <

- Internal Medicine Resident education (didactics, pre & post quiz, lectures, posters).
  - 2.PHASE 2 & 3 (October 2022- February 2023):
  - Improvement in *single unit and restrictive* transfusion by Internal Medicine residents.

#### RESULT

#### • PHASE I: D (PRE-INTER)

- Single Unit
- Restrictive

#### • **PHASE 2:** (POST INTER

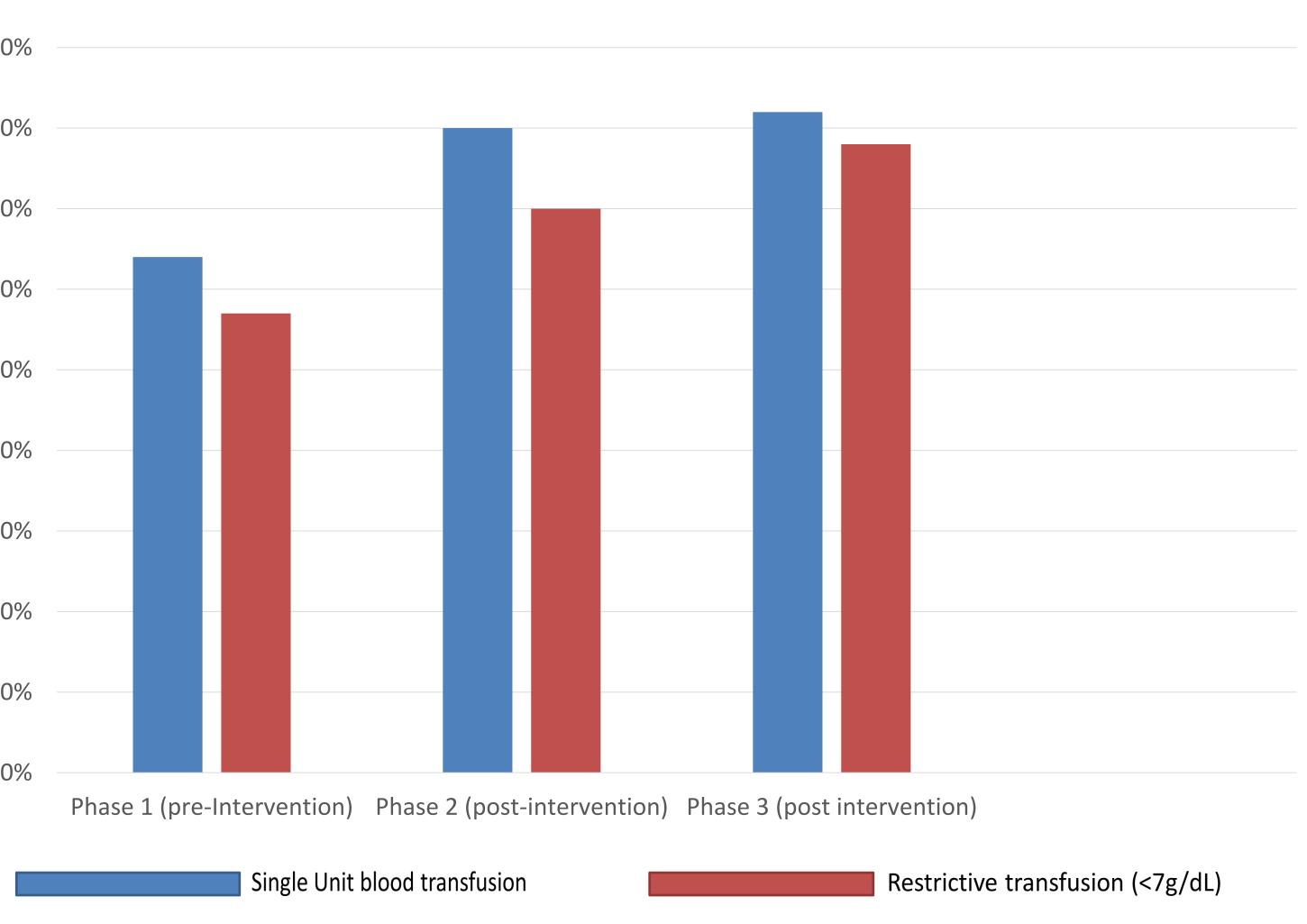
- Single Un
- Restrictiv
- **PHASE 3**:
- Single Unit
- Restrictive



1. Single Unit blood transfusions improved from 64% to 82%, an *absolute improvement of 18% (95% CI 65 to* 66, p<0.05).

2. Restrictive transfusion (<7g/dL) improved from 57% to 78%, an *absolute improvement of 21% (95% CI 61.6* to 62.4, p<0.05).

ΓS	
	90%
DATA COLLECTION VENTION)	80%
t blood transfusion <b>64%</b>	70%
e transfusion (<7g/dL) <b>57%</b>	60%
	50%
: RVENTION)	40%
nit blood transfusion improved to 80%	30%
ve transfusion improved to <b>70%</b>	20%
	10%
t blood transfusion improved to <b>82%</b> e transfusion improved to <b>78%</b>	0%



22, Issue 3,2015, 00269) page-

#### **REFERENCES**

1. M.F. Murphy, L.T. Goodnough. The scientific basis for patient blood management. Transfusion Clinique et Biologique. Volume

https://doi.org/10.1016/j.tracli.2015.04.001.

(https://www.sciencedirect.com/science/article/pii/S12467820150

2. https://www.redcross.org/content/dam/redcrossblood/hospital-

3. https://www.choosingwisely.org/societies/americanassociation-of-blood-banks