

# Assessment of Kcentra Usage and Place in Therapy Among Pharmacists

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## Background

- Anticoagulation is the cornerstone of treatment for thrombosis and thromboembolic complications of a variety of disorders<sup>1</sup>
- It is estimated that over six million patients in the US are treated with anticoagulants and are thus at an increased risk of bleeding<sup>2</sup>
- Current anticoagulation reversal guidelines list Kcentra (4F-PCC) as a treatment option for warfarin and DOAC reversal in the event of acute major bleeding or urgent need for surgery
- With the addition of Kcentra to many HSHS hospital formularies, there has been a higher than expected usage of Kcentra
- This study aims to assess its usage at these hospitals and pharmacist knowledge regarding Kcentra

## Methods

- Pre-survey was distributed to all pharmacists at St. Joseph's, St. Elizabeth's and Holy Family hospitals
- Retrospective initial chart review assessed all Kcentra administrations from July 1st, 2021, to July 1st, 2023, at St. Joseph's and Holy Family Hospitals
- Using pre-survey and initial chart review results, Kcentra education was provided
- Post-survey was then distributed to same cohort of pharmacists
- Additional retrospective chart review assessed Kcentra administrations from November 14th, 2023, to March 14th, 2024
- Data was collected from hospital electronic medical records; protected health information (PHI) was not documented in the excel data collection sheet
- Institutional Investigational Review Board (IRB) approval was obtained for this study

## Results

### Pre- versus Post-Education Self-Assessment

	Strongly Disagree		Somewhat Disagree		Somewhat Agree		Strongly Agree	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
<b>Pre- (n=12), Post- (n=10)</b>								
I feel confident in verifying Kcentra orders	1	0	1	0	1	5	9	5
I am aware of the contraindications to Kcentra	0	0	2	0	3	5	7	5
I understand how to dose Kcentra appropriately	0	0	1	0	5	4	6	6
I am familiar with HSHS's Kcentra protocol	0	0	4	0	2	7	6	3
I know how to identify when Kcentra usage is appropriate	0	0	0	0	4	5	8	5
I am comfortable recommending an alternative therapy when Kcentra is not appropriate	0	0	1	0	5	6	6	4

### Pre-Education Chart Review

Appropriate (77%)	Total (n = 44)
Intracerebral Hemorrhage	22
Intraabdominal Bleed	2
Extremity Bleed	1
Hemopneumothorax	1
Administration of ≥2 units RBC	10
Clinically overt bleeding with Hgb decrease ≥2g/dL	5
Hemodynamic Instability	1
Need for Urgent Surgery	2
Inappropriate (23%)	Total (n = 13)
Elevated INR	13

### Post-Education Chart Review

Appropriate (88%)	Total (n = 14)
Intracerebral Hemorrhage	8
Intraabdominal Bleed	2
Administration of ≥2 units RBC	1
Clinically overt bleeding with Hgb decrease ≥2g/dL	2
Need for Urgent Surgery	1
Inappropriate (12%)	Total (n = 2)
Elevated INR	1
No recent anticoagulation administration	1

### Pre- versus Post-Education Cases

	Yes		No	
	Pre	Post	Pre	Post
Contraindicated	10	0	2	10
Inappropriate	0	0	12	10
Appropriate	8	10	4	0

## Limitations

- Since the survey was anonymous, we are unable to tell if the pharmacists who took the pre-survey were the same individuals who took the post-survey
- Similarly, we were unable to determine if all participating pharmacists read the Kcentra educational handout or watched the supplemental video
- Unable to assess adverse events as secondary outcomes due to the majority of patients being transferred to other facilities
- Due to time constraints, the post-education chart review was shorter than initial chart review

## Conclusion

- Post-education survey results show an increase in confidence and comfortability regarding Kcentra order verification and recommendations
- Additionally, there was an increase in accuracy regarding order verification as demonstrated by the results of the practice cases
- The study results suggest that providing education on proper Kcentra verification improves pharmacist accuracy and comfortability and as a result, improves hospital and patient outcomes

## References

1. Tomaselli, G, Mahaffey, K, Cuker, A. et al. *J Am Coll Cardiol.* 2020 Aug, 76 (5) 594–622.
2. Barnes GD, Lucas E, Alexander GC, et al. National trends in ambulatory oral anticoagulant use. *Am J Med.*2015;128:1300–5.e2.