

# Assessment of Kcentra Usage and Place in Therapy Among Pharmacists

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## Abstract

**Purpose:** 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. However, Kcentra carries a hefty price tag that impacts the hospital and the patient. Some HSHS Hospitals have noticed an increase in Kcentra prescribing which poses the question of if it is being used correctly. This study aims to assess the use of and provide data on the use of Kcentra for anticoagulation reversal, as well as assess pharmacist knowledge of proper use of Kcentra at St. Joseph's and Holy Family hospitals.

**Methods:** Prior to chart review, a survey was distributed to all pharmacists who can verify Kcentra orders at St. Joseph's and Holy Family hospitals. The survey assessed confidence in verifying Kcentra, as well as assessing pharmacist knowledge on Kcentra appropriateness with three short practice cases. Initial chart review included patients at St. Joseph's hospitals and Holy Family who received Kcentra for either warfarin or DOAC reversal between July 1<sup>st</sup>, 2021 and July 1<sup>st</sup>, 2023. Because this is a retrospective chart review, participants were not recruited. Data was gathered from the respective hospital electronic medical record. Information gathered from the electronic health record included evidence of confirmed acute major bleeding, documentation of urgent surgery, or prescriber indication for anticoagulation reversal. After completion of chart review, education regarding Kcentra appropriateness and verification was provided to all pharmacists who can verify Kcentra orders. Subsequently, the same survey was distributed, and results were collected to assess education impact and efficacy. An additional chart review was conducted to assess Kcentra prescribing, appropriateness, and verification post-education from November 14<sup>th</sup>, 2023, to March 14<sup>th</sup>, 2024. The institutional review board (IRB) has approved this study.

**Results:** The pre-education self-assessment showed that the majority of pharmacists expressed that they feel mostly comfortable and confident verifying Kcentra orders. It was also noted that some pharmacists have some hesitancy about proper Kcentra usage. It was found that 83% of pharmacists said that they would verify Kcentra in a patient who present with a contraindication. 100% of pharmacists were able to correctly identify when Kcentra usage would not be indicated and 66% of pharmacists accurately identified when Kcentra administration would be appropriate. The initial chart review revealed that 77% of the Kcentra administrations from the past two years were accurately verified and administered to the patient with the most common administration being for intracerebral hemorrhage. It was also found that 33% of administrations were to reverse an elevated INR with no evidence of acute major bleeding or need for urgent surgery. Compared to the pre-education self-assessment, the post-education self-assessment showed that there was a positive shift in pharmacist confidence and comfortability. Post-education practice cases showed 100% accuracy regarding appropriate Kcentra verification. The post-education chart review showed an increase in accurate Kcentra verification with Kcentra being used appropriately 88% of the time. When comparing the initial chart review to the post-education chart review, there was an 11% increase in Kcentra verification accuracy.

**Conclusion:** After the educational intervention, both the post-education survey and post-education chart review reflect an increase in accuracy in verifying Kcentra orders. Additionally, pharmacists expressed an increase in confidence and comfortability approaching and verifying Kcentra orders. This study brought to light a concern that many institutions may be experiencing and was able to demonstrate a promising solution to this problem. The study results reinforce optimism that the inappropriate Kcentra usage will continue to trend down, and pharmacist confidence will continue to grow.