**BACKGROUND**

NAPRA utilizes USP 797 to recommend standardized beyond use dates (BUD) for sterile compounds. Current USP 797 guidance allows institutions to extend the recommended BUD based on published stability data. However, upcoming changes propose a maximum BUD cut off for compounds due to variability in stability literature.

**RESULTS**

We identified 3449 studies for cefazolin and 1552 studies for vancomycin. Duplicates were removed, and a total of 7 studies with 138 data points were recorded for cefazolin and 8 studies with 332 data points for vancomycin. Six and 8 different manufacturers were recorded for cefazolin and vancomycin respectively.

**OBJECTIVES**

To evaluate and confirm if variations in drug manufacturer contributes to variations in cefazolin and vancomycin admixture stability.

**METHODS**

We conducted a systematic review and meta-analysis of PubMed, Scopus and EMBASE from January 1950 to October 2017 for studies evaluating cefazolin stability. We utilized the search terms “cefazolin” AND “stability” and restricted our search according to our inclusion and exclusion criteria.

We extracted information pertaining to study day, lab, manufacturer, temperature, container of storage, diluent and drug concentration in order to model their effects on percent of drug remaining.

**REFERENCES**


6. Huvelle 2016 Smith Kline, Mylan 57


14. Huvelle 2016 Smith Kline, Mylan 57


Our study suggests that differences in manufacturers do not contribute to variability in stability of cefazolin. Our analysis of vancomycin was consistent with prior two published studies demonstrating an insignificant effect of manufacturer on stability results. The amended USP 797 guidelines allow a maximum BUD of 9 days for refrigerated compounded products without sterility testing or a maximum BUD of 45 days in frozen conditions. Therefore, minute variations in stability due to manufacturers may only be relevant for drugs with a BUD shorter than the NAPRA guidance. Future research on manufacturer differences should focus on these shorter expiry drugs.

There are several limitations that warrant discussion. We were unable to account for other factors such as exposure to light, freeze/thaw of batches or variations in laboratory equipment, as not all information was reported in the studies. There are a limited number of head-to-head trials, and published studies on this topic, which resulted in correlation between some factors in the model. Despite this, subsequent analysis of the model demonstrated only a minor impact of the correlation on the overall result.