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Purpose/Background: Automatic Therapeutic Substitution (ATS) protocols are formulary tools that allow for pharmacist and provide-driven interchange from a non-formulary preadmission medication to a formulary equivalent. Previous studies have demonstrated the application of Clinical Decision Support (CDS) tools to support ATS can decrease conversion errors at admission, but there is limited data describing impact of CDS on discharge errors.

Objective: To describe the impact of CDS-supported therapeutic interchanges on discharge medication duplications or omissions.

Methods: This was a single-center, retrospective cohort study conducted at an academic medical center. Patients admitted between June 2017 and August 2019 were included if they were ≥18 years at admission, underwent an ATS protocol-approved interchange for 1 of 9 included medication classes, and had a completed discharge medication reconciliation. The primary outcome was change in incidence of therapeutic duplication or omission at discharge between the pre- and post-CDS implementation periods.

Results: A total of 737 pre-implementation encounters and 733 post-implementation encounters were included. CDS did not significantly decrease the incidence of discharge duplications or omissions (12.1% vs 10.8%; p=0.43), nor the incidence of admission, duplication, or inappropriate reconciliation (20.7% vs 21.5%; p=0.67) between the pre- and post-implementation periods. Inappropriate reconciliation was the primary cause of discharge medication errors (12%), followed by therapeutic omission (8%) for both groups.

Conclusion: CDS implementation was not associated with a decrease in discharge omissions, duplications, or inappropriate reconciliation. Findings highlight the need for thoughtful medication reconciliation at the point of discharge.