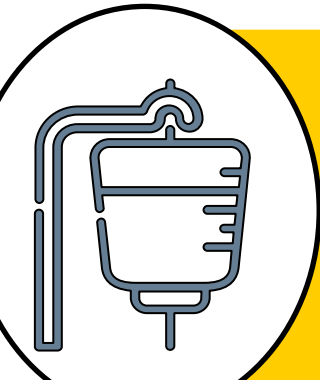

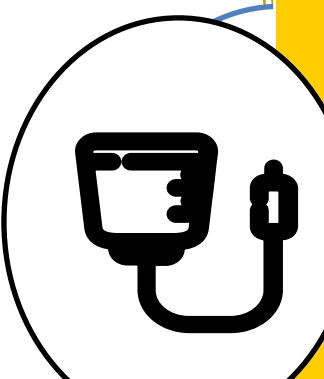




Evaluating the Impact of Continuous Infusion Chemotherapy Titration Protocol on Administration Time and Length of Stay in Inpatient Oncology Unit

Thy Le, PharmD; Lindsay Miller, PharmD, BCOP
University of Iowa Hospitals and Clinics, Iowa City, IA

Introduction

-  Chemotherapy administered as a continuous intravenous infusion often runs behind schedule due to bag overfill in the manufacturing process.
-  The duration of a chemotherapy infusion can extend the patient's length of stay, as well as necessitate additional nursing staff and monitoring.
-  Nursing colleagues may inquire as to whether it is possible to increase the infusion rate in order to finish the infusion within the predetermined time frame.
-  In May 2022, a standardized protocol was implemented for inpatient continuous chemotherapy with the goal of reducing confusion and variability in titration practices for nursing colleagues.
-  In light of the limited data and studies available for the titration protocol, it is clinically indicated that further research should be conducted to determine the effectiveness of intravenous chemotherapy titration protocols.

Methods

Single center, retrospective chart review from May 2021 through July 2023

- May 2021 – April 2022 (Pre-implementation)
- August 2022 – July 2023 (Post-implementation)

Inclusion criteria:

- ≥ 18 years old
- Patients who received continuous IV chemotherapy infusion

Exclusion criteria:

- Continuous IV chemotherapy infusion initiated at an outside institution
- Patients who were pregnant
- Patients who received blinatumomab
- Patients who received continuous infusion between May 2022 – July 2022

Outcomes

Primary Outcome:

- Evaluate the impact of titration protocol on administration time

Secondary Outcomes:

- Quantify patient length of stay
- Evaluate the incidence of infusion reactions pre- and post-implementation

Results

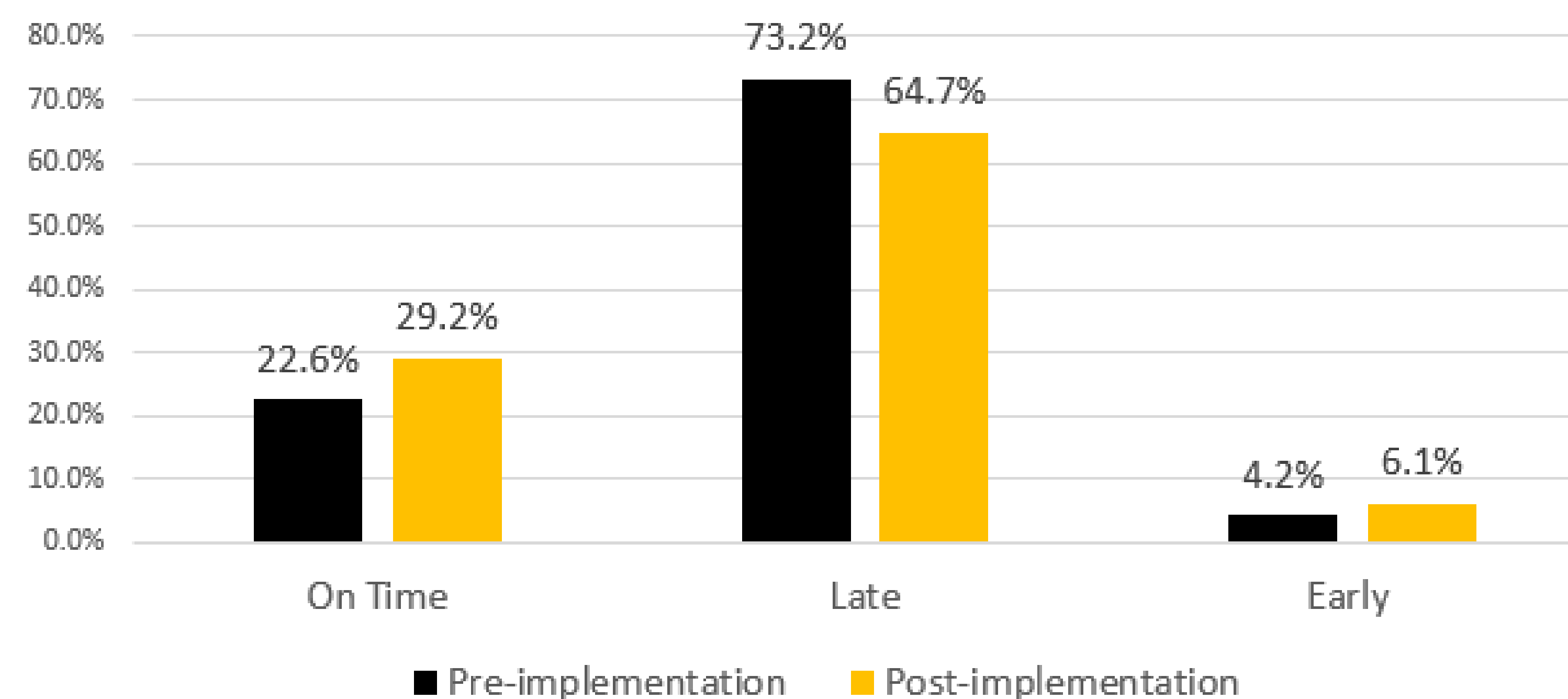
84 patient charts were reviewed
32 patient charts in the pre-implementation and 52 patient charts in post-implementation

Titration Guidance:

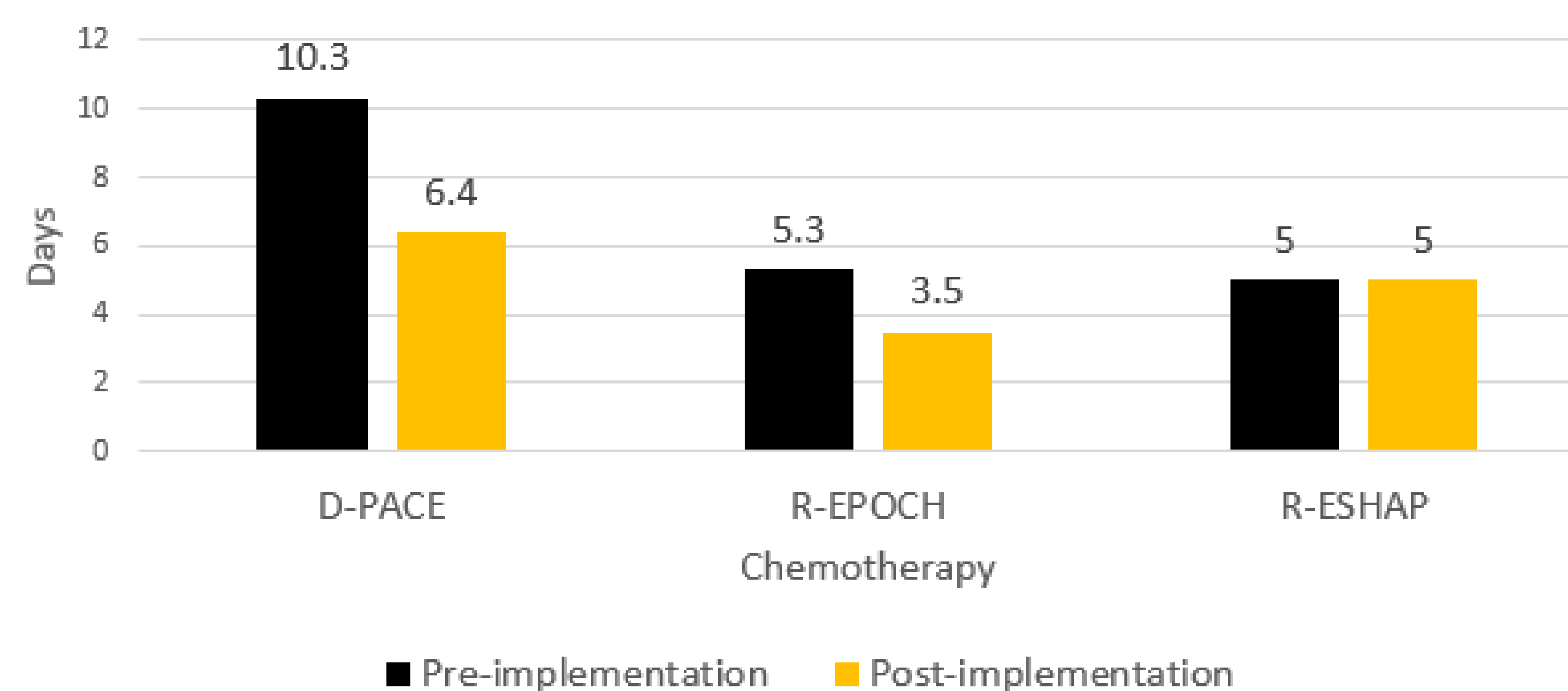
Rate Listed in EPIC (mL/hour)	Maximum Nursing Titrated Rate (mL/hour)
Less than 10	Contact unit pharmacist
10 – 12.5	15
12.6 – 15	18.5
15.1 – 17.5	21.5
17.6 – 20	25
20.1 – 25	30
25.1 – 30	36.5
30.1 – 35	43.5
35.1 – 40	50
40.1 – 45	56.5
45.1 – 50	63.5
Greater than 50	Contact unit pharmacist

- Cisplatin
- Cyclophosphamide
- Cytarabine
- Doxorubicin
- Etoposide
- Fluorouracil
- Paclitaxel
- Trabectedin
- Vincristine

Administration Time of Continuous Infusion Chemotherapy



Average Length of Stay



Conclusions

- Utilization of the maximum titration rate does not increase the risk of infusion-related reactions
- Implementation of the titration protocol led to an increase in administration timeliness and increased standardization
- Furthermore, adherence to titration protocols has been found to reduce the length of stay for cancer patients.

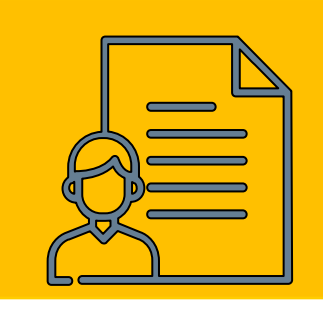


Discussions

- Due to a nursing shortage, patients may receive delayed chemotherapy administration which impacts the duration of chemotherapy and prolongs the length of stay.
- Many different factors including patient condition, method of payment, and type of chemotherapy treatment can also impact discharge decision

Limitations

- Single center, single unit
- Retrospective study design
- Small sample size, and manual chart review for data collection with inconsistent charting
- Presence of many confounding factors

Future Opportunities

-  Perform qualitative research to identify other factors contributing to delayed chemotherapy administration from nursing perspectives
-  Develop a titration protocol for the outpatient infusion center
-  Evaluate the cost implications in reduction of length of stay and other healthcare resources.

Disclosures

- The authors have no disclosures concerning personal relationships with commercial entities that may have a direct or indirect interest in this subject

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