



Potential Cost Savings from Dose Rounding

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Background

- HOPA, the Hematology/Oncology Pharmacy association, recommends rounding up or down to the nearest vial size when it is within 10% of the ordered medication dose.
- Dose-rounding is a strategy used to minimize waste and decrease costs of biologics, monoclonal antibodies, and cytotoxic agents.
- Integrating an automated dose-rounding policy into an electronic health record (EHR) system can lead to a potential of millions in cost savings on oncology infusions.

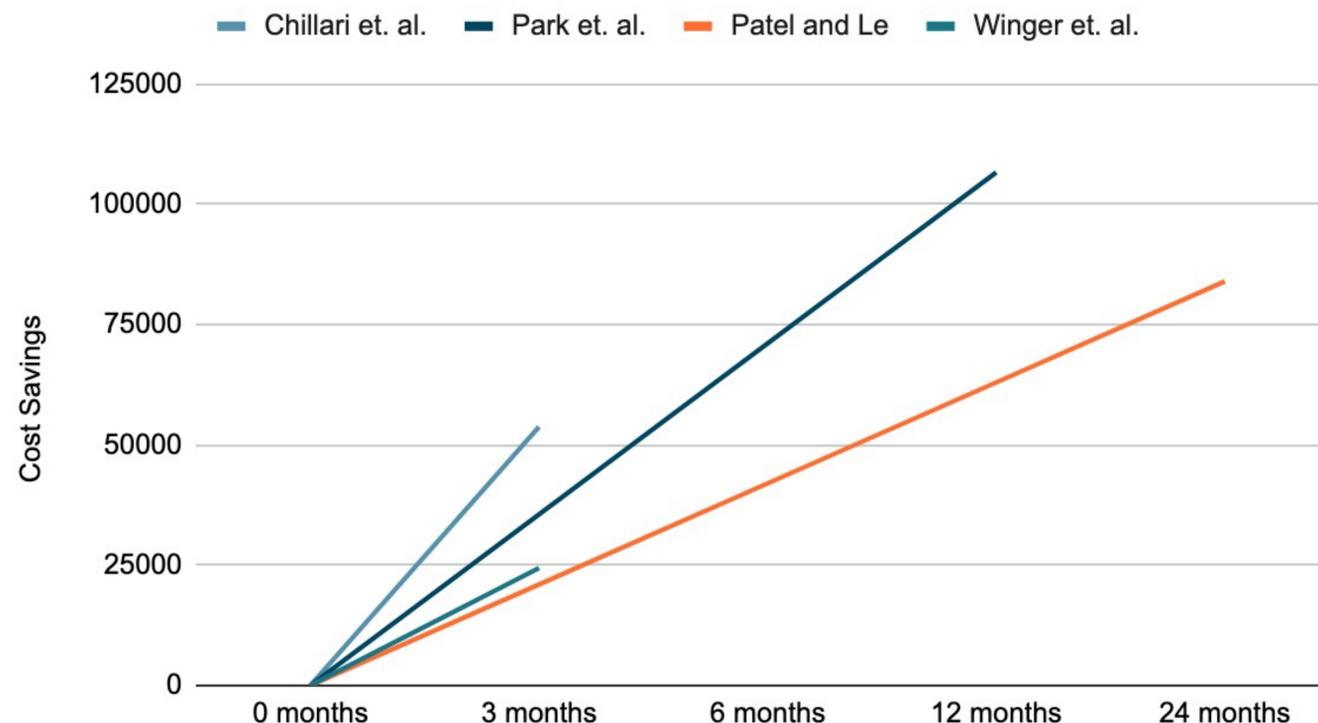
Objective

- Investigate the potential savings of cost-rounding of oncology infusions.
- Determine whether dose-rounding chemotherapy agents is an effective cost-saving strategy at an institution.
- Demonstrate the cost savings of institutions that have integrated an automated dose-rounding policy into their EHR system.

Methods

- There are both retrospective and prospective studies that have been performed to look at the potential cost savings of certain medications and chemotherapy.
- A retrospective chart studies, such as Chillari et. al, reviewed body surface area dosed parental chemotherapy within a certain time period to calculate potential cost savings and drug waste reductions from dose-rounding.
- Prospective studies implemented a dose-rounding protocol that automatically rounded physician's orders to the nearest vial size if it was within 10% of the original dose.

Potential Cost Savings According to Study Period



Discussion

- Chillari et. al. suggests that dose rounding is an effective cost saving tool in low-volume oncology clinics by calculating a potential savings of \$53,760 if a policy were implemented.
- Patel and Le performed a retrospective chart review of rituximab orders over a 24-month period showed a potential cost-savings of \$84,000 if doses were rounded up or down to the nearest vial size.
- Winger et al. reviewed 126 biologic anticancer agents and calculated a reduction in drug waste of 42% and a potential savings of \$24,434 within a 3-month time period.
- Park et. al. estimated a savings of \$106,640 per year through standardized infliximab dose rounding.
- A prospective study conducted through the University of Michigan cost-rounded 24 high frequency used infusion medications and found a total of \$3,601,728 in savings with an average savings of \$1,432 per dose.

Conclusion

- Dose-rounding has shown to significantly minimize cost and waste at different types of medical institutions.
- Certain medications that were dose-rounded were: aldesleukin, bevacizumab, cetuximab, denileukin diftitox, gemtuzumab, rituximab, and trastuzumab.
- Future research is needed to determine how dose rounding impacts patient outcomes.

References

- Chillari KA, Southward J, Harrigan N. Assessment of the potential impact of dose rounding parenteral chemotherapy agents on cost savings and drug waste minimization. *J Oncol Pharm Pract.* 2018;24(7):507-510. doi:10.1177/1078155217722205
- Dela Pena J, Eschenburg K LaRocca V, et al. Financial impact of an automatic oncology drug rounding initiative: one year analysis. Presented at HOPA 16th Annual Conference. March 11-14, 2020, Tampa, Florida.
- Park JJ, Boutillier L, Cruz JE, et. Al. *J Manag Care Spec Pharm*, 2018 Oct;24(10):1028-1033. <https://doi.org/10.18553/jmcp.2018.10.1028>
- Patel S, Le A. Rounding rituximab dose to nearest vial size. *J Oncol Pharm Pract.* 2013;19(3):218-221. doi:10.1177/1078155212462439
- Winger BJ, Clements EA, DeYoung JL, et al. Cost savings from dose rounding of biologic anticancer agents in adults. *J Oncol Pharm Pract.* 2011;17(3):246-251. doi:10.1177/1078155210366171