

Impact of Quality on Improving Chemotherapy Ordering Process

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Short Communication

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ABSTRACT

Quality improvement methodology provides the necessary processes to help reduce medication errors. A project was initiated to improve the chemotherapy ordering process by using the quality improvement methodology of Plan, Do Study, Act. The *Plan* phase was to determine the problem and develop an aim statement. The aim was to improve the chemotherapy ordering process by decreasing deviations when completing the order form. Tools utilized throughout the project were a fishbone diagram to provide the causes and effects of the deviations; a process map to describe the flow of the order form with nursing and pharmacy, and after baseline data collection of types of deviation, a pareto chart provided a percentage display of the various types of deviations with the order form. The *Do* phase involved the implementation of interventions to improve knowledge of the process to complete the chemotherapy order forms. The *Study* phase required the collection and analysis of data. The *Act* phase incorporated the process throughout the organization with a follow-up status to assess for sustainment. After a six-month follow-up, this project reflected a 51% decrease in the number of order forms with deviations, surpassing the goal. The one-year follow-up reflected a slight increase in the number of reviews with a deviation in the chemotherapy ordering process. Even with the slight increase, education to physicians and staff continue. The overall goal was to decrease the number of deviations on the chemotherapy order form and to promote improvement in safe, efficient, and quality care of our patients.

INTRODUCTION

Safe, efficient, and quality care for patients is essential for those receiving chemotherapy. With the complexity of a high-risk medication, preventing medication errors requires safe practices when ordering and administering chemotherapy. The second most common cause of a fatal medication error is chemotherapy^[1]. The implementation of this quality improvement initiative will provide a process to assist with reducing medication errors related to ordering chemotherapy.

Our outpatient infusion centers were having a lack of consistency with documentation of chemotherapy orders and administration of chemotherapy, which caused difficulty with locating the placement of orders and the tracking of appropriate chemotherapy regimen. In addition, the electronic health record (EHR) allowed for the placement of orders into the patient record from a word document using the "copy & paste" function without a standardized format. Other issues of concern include the bypassing of chemotherapy dosage checks at the prescriber level and difficulty updating the original order when changes are required. A quality improvement project was initiated to improve the chemotherapy ordering process. The quality improvement methodology for this project was Plan, Do, Study, Act.

PLAN, DO, STUDY, ACT

The *Plan* phase included the determination of the problem and developing an aim statement. In the case of our study, the problems were with the many deviations in the chemotherapy ordering process in the form of inconsistent, inappropriate, and non-standardized documentation in the medical record and chemotherapy order form. Our aim statement was to decrease the

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number of chemotherapy order forms that deviated from the standard chemotherapy ordering policy by 50% after six months within the outpatient infusion centers^[2].

A quality improvement tool, fishbone diagram, assisted with organizing the causes and effects contributing to the deviations in the process. After developing a list of the most common reasons for deviations in the chemotherapy order form, it was decided to put the main focus of the project on the inconsistencies in completing the form, lack of staff knowledge with the process and accepting incomplete orders. The development of a process map provided an illustration of the process of chemotherapy ordering with integrating nursing and pharmacy responsibilities. Collection of baseline data was on the number and type of deviations on the chemotherapy order form.-

The *Do* phase involved the implementation of interventions to make improvements. Interventions for this project were to improve the knowledge of the process and to implement a consistent completion process of the chemotherapy order form. The initial phase of the project lasted five months, which consisted of educating physicians on how to complete the order form, standardizing written protocols for chemotherapy, adding laboratory parameters to the order form and increasing knowledge with linking journal articles. In addition, there were manual audits with feedback to the physicians and education to nursing staff regarding the practice of not accepting orders with deviations.

The *Study* phase involved the gathering, analyzing, and evaluating data. For baseline data, the review consisted of 127 orders with 89 orders reflecting at least one deviation. Subsequent to implementation, 207 orders were reviewed where 117 orders had at least one deviation. This was a relative reduction of 19%. Additional interventions of one-on-one education to the providers continued with data analysis at six months. At the six-month follow-up analysis, 29 orders reviewed showed only 10 orders having at least one deviation. This revealed a relative decrease of 51% from baseline. This surpassed the original project goal of 50%.

The *Act* phase was the assessment of the outcomes of the project. With a successful project, there was implementation with other infusion centers within the organization. If the project were not successful, we would re-evaluate the project for adjusting the process or discontinue it. Moreover, for sustainability of a project, establishing a plan is relevant. The one-year follow-up and re-evaluation of compliance with the chemotherapy ordering process reflected a slight increase where 36 orders reviewed had 18 orders with a deviation. This was a 29% decrease from the baseline. Despite this slight increase, there was continuation of one-on-one education to the physicians and staff.

CONCLUSION

This quality improvement project, by using the methodology of Plan, Do, Study, Act, provided knowledge to physicians, nursing and pharmacists on the process and completion of chemotherapy order forms. Decreasing the number of deviations on the order form was the overall goal, which in turn will promote improvements in safe, efficient and quality care to our patients.

REFERENCES

1. Rachon, et al. Chemotherapeutic errors in hospitalised cancer patients: Attributable damage and extra costs. *BMC Cancer*. 2011;11:478.
2. Bryant-Bova JN. Improving chemotherapy ordering process. *Journal of Oncology Practice*. 2016;12:e248-256.