Impact of an Analytics Alert Intervention on G-CSF Prescription Turnaround Time in Specialty Pharmacy

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Background

- Chemotherapy-induced neutropenia (CIN) is an expected and serious side effect from many common chemotherapy regimens used in oncology practice today. CIN can often lead to febrile neutropenia (FN), delays in chemotherapy treatment, dose reductions or even cessation of chemotherapy treatment.
- Granulocyte colony stimulating factor (G-CSF) medications are often prescribed as primary prophylaxis when the risk of CIN is >20% for a given chemotherapy regimen or as secondary prophylaxis following a CIN event.
- Specialty pharmacies often are designated by providers or insurances to manage G-CSF medications for CIN prophylaxis. The timeliness with G-CSF administration and navigation of potential barriers with insurance prior authorizations, insurance payer networks, limited distribution access, and patient financial assistance are key to successful outcomes of therapy.
- Lumicera Health Services and its Health-System Specialty Pharmacy partners dispensed 19,716 oncology prescriptions in 2022. Due to the size and scale of the oncology program, the pharmacy has implemented an alert system leveraging data extraction from the pharmacy patient management system specific for the G-CSF class of medications.
- The intent with the alert intervention is to keep the focus of pharmacists and technicians on expediting care for these G-CSF patients and their highly time-sensitive prescriptions that comprise just 5.1% of the total oncology prescription volume.

Objectives

- Implement a secure email alert to intake/enrollment technicians and oncology pharmacists who will focus attention on the G-CSF prescriptions and patients that have not completed the prescription screening and order scheduling process.
- Look to see turnaround times decrease by a significant amount for the G-CSF patients with goals to reduce overall new patient turnaround from 2.53 days in 2022 to 2 days or less in 2023. Secondary objective would be to reduce time to contact from a baseline of 1.55 days in 2022 to 1 day or less in 2023.

Methods

- Stakeholders on the pharmacy intake technician and oncology pharmacist teams provided feedback on how best to draw attention and focus to a new G-CSF medication patient and prescription. The result was the creation of a targeted, secure email alert pulling key information from the patient management platform.
- The alert features the queue location of the prescription, date written, last call date, patient name, date of birth, medication, quantity, and pharmacy notes. These pieces of information indicate which team is responsible for next steps and what interval for follow-up or initial action is appropriate.
- Metrics for G-CSF prescription turnaround time and time to first contact are exported from the patient management platform for analysis on a calendar month basis. Categorization of the prescription type as being either clean or unclean occurs dependent upon the need for insurance authorization or financial assistance. Subsequent review and evaluation of progress towards the objectives with the alert email intervention occur with the key stakeholders.

Results

- Overall time to contact new patients decreased 22.6% from January 2023 (1.95 days to 1.59 days) and decreased 49.1% from February 2022 (2.37 to 1.59 days).
- Overall new patient turnaround time increased from 2.63 days in January 2023 to 3.16 days in February 2023 and was longer than the overall mean turnaround time for 2022 of 2.55 days.
- The number of overall prescriptions dispensed decreased 41.8% from January 2023 to February 2023, and 43.6% from February 2022 to February 2023.

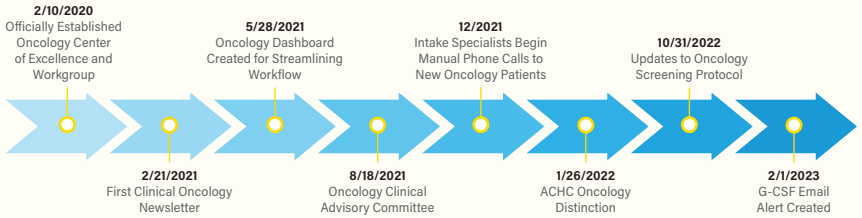


Table 1: G-CSF Prescription Turnaround Time Metrics

Timeframe	Overall	Overall New	New and Unclean	New and Clean	Automated Refill	% of New Rxs Under 3 Days	Clean Time to Contact	Unclean Time to Contact	Time to Contact	% Time to Contact 3 Days or Less	Total Patients
Feb-23	4.05	3.16	4.75	2.71	5.35	68.8%	0.93	2.93	1.59	83.3%	55
Jan-23	4.52	2.63	3.48	2.45	6.81	67.5%	1.12	4.29	1.95	78.3%	78
Feb-22	3.9	3.07	2.65	3.19	4.94	72.3%	2.15	2.88	2.37	64.7%	85
Jan-22	3.14	2.62	2.89	2.55	4.29	73.6%	1.30	1.42	1.34	88.0%	79
2022	3.49	2.55	2.6	2.53	4.41	77.5%	1.52	1.56	1.54	84.0%	953
Q1 - 2022	3.97	3.3	3.53	3.22	4.84	68.8%	1.60	1.83	1.67	79.1%	256

Figure 1. Turnaround Time - Days to Ship

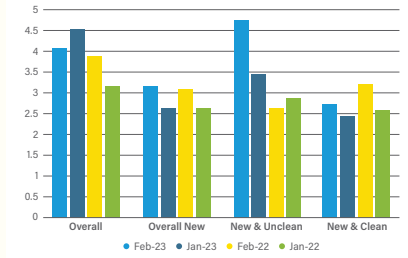


Figure 2. Turnaround Time - Time to Contact

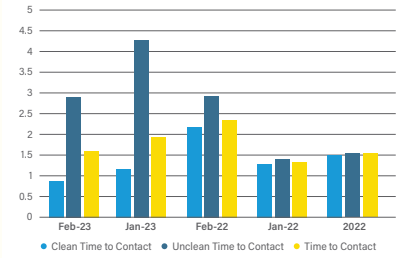


Figure 3. G-CSF RXs Turnaround Time 2022

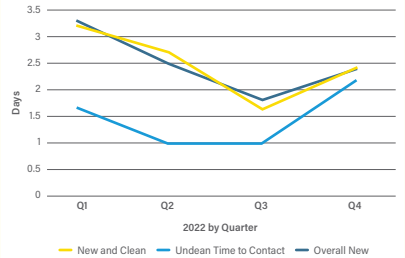
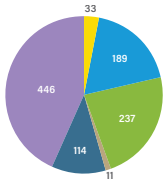
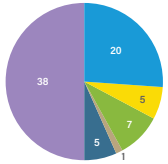


Figure 4. CSF Medication Distribution 2022
(1,006 Total Orders)



- pegfilgrastim-jmdb (Fulphila) 6 MG/0.6ML SOLUTION
- pegfilgrastim (Neulasta) 6 MG/0.6ML SOLUTION
- filgrastim-aafi (Nivestym) 300 MCG/0.5ML and 480 MCG/0.8ML SOLUTION
- filgrastim-sndz (Zarxio) 300 MCG/0.5ML and 480 MCG/0.8ML SOLUTION
- filgrastim (Neupogen) 300 MCG/0.5ML SOLUTION
- pegfilgrastim-bmez (Ziextenzo) 6 MG/0.6ML SOLUTION

Figure 5. G-CSF Medication Distribution January 2023
(78 Total Orders)



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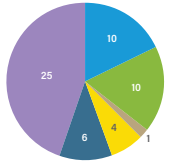
- filgrastim (Neupogen) 300 MCG/0.5ML SOLUTION
- pegfilgrastim-bmez (Ziextenzo) 6 MG/0.6ML SOLUTION

Figure 6. Medication Distribution February 2023
(55 Total Orders)



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- pegfilgrastim (Neulasta) 6 MG/0.6ML SOLUTION
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Limitations

- The implementation of the alert email intervention only had one month of results to interpret with this preliminary phase of the study.
- The sample size decreased over 40% from the previous month and the same month the previous year.
- Variability with the amount of time spent on prior authorizations and financial assistance can delay the turnaround time significantly, especially in the programs requiring patients to self-enroll without the assistance of pharmacy personnel.

Conclusion

- A longer duration of time is needed to fully assess the impact of the intervention on turnaround time and time to contact with this group of medications and patients. Outliers with the relatively small sample size (55 patients) for February 2023 may have more easily skewed turnaround time data.
- Preliminary results show that the alert was effective at bringing attention to the team where and when action could be taken to contact the patients about scheduling enrollment and dispensing the medication with a 22.6% decrease from the previous month.
- New, clean prescriptions that did not require intervention with prior authorization or financial assistance received patient contact outreach in less than 1 business day. This is a significant indicator that the alert was bringing timely attention to those patients who were eligible for their order setup.

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Disclosures

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