Implementation of a Proactive Outreach Program to Patients with Gastrointestinal Malignancies Starting New Chemotherapy Regimens

Dina Ioffe, MD
Fox Chase Cancer Center

June 17, 2022
Problem Statement

- From July – December 2021, zero (0) gastrointestinal (GI) medical oncology patients were proactively contacted through a standard process within 72 hours of their first cycle of a new intravenous (IV) chemotherapy treatment.

- This led to urgent interventions to manage patient inquiries and symptoms by team members across Fox Chase Cancer Center yielding increased wrap-around care through phone triage calls, urgent care/emergency room visits, and hospitalizations, as well as increased patient/provider dissatisfaction.
Process Map: New

Pt scheduled for new treatment

Infusion Scheduler sends “C1D1 list” to Amb Care Clinic RN Manager (or Charge RN designee) every Monday

Amb Care Clinic RN Manager highlights GI oncology pts on C1D1 list

Amb Care Clinic RN Manager sends highlighted C1D1 List to RN team members

RN identifies pts from their clinic

Intervention: RN manager reminder email mid-week

RN creates “Patient Outreach” encounter in Epic to document phone call within 72 hr of C1D1

RN uses .cycleonecalls dot phrase to guide outreach questions & document responses

RN documents call per dotphrase

Pt answers

Action needed?

Yes

RN provides medication mgmt. education & routes to GI Onc Team

Pt has acute needs: RN routes msg to GI Onc Team

RN arranges IV Fluids & routes summary to GI Onc Team

GI Onc Team reviews, recommends or performs necessary intervention, and routes message accordingly, or closes encounter

GI Onc Team reviews, addresses remaining issue, closes encounter

No

RN closes encounter

Pt in DRU, ED, or admitted to hospital

RN uses .cycleonecalls dot phrase and provides brief summary of events; routes encounter to GI Onc Team

RN closes encounter

No answer

RN leaves message for pt to call back if any questions or symptoms, and documents per .cycleonecalls dotphrase

RN closes encounter

Legend:

Treatment = Treatment in Infusion room
RN = GI Clinic RN
GI Onc Team = Medical Oncology attending, Fellow, and/or APP
Pt = GI Oncology Patient
DRU = Direct Referral Unit
ED = Emergency Department

Standardize Education
Pt scheduled for new treatment

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**Legend:**
- **Treatment** = Treatment in Infusion room
- **RN** = GI Clinic RN
- **GI Onc Team** = Medical Oncology attending, Fellow, and/or APP
- **Pt** = GI Oncology Patient
- **DRU** = Direct Referral Unit
- **ED** = Emergency Department
Institutional Overview

Fox Chase Cancer Center (FCCC)

- Affiliated with Temple University Health System in Philadelphia, PA
- Founded in 1904 as one of the nation’s first cancer hospitals
- NCI-designated Comprehensive Cancer Center
- Founding member of the National Comprehensive Cancer Network (NCCN)

- Ongoing clinical trials: 250
- Hospital beds: 100
- Total patients seen per year: >35,000
- New patients seen yearly: 8,418
- Number of outpatient visits per year: 88,497
- Training programs in hematology oncology, radiation oncology, surgical oncology
Team Members

- Peter Whooley, DO, MBA
  - Hematology/Oncology Fellow, PGY-6
  - Currently away

- Dina Ioffe, MD
  - Hematology/Oncology Fellow, PGY-5

- Marie Riehl, BSN, RN, OCN
  - Clinical manager of ambulatory care & clinic

- Tara DelGrippo, MSN, RN, OCN, NE-BC
  - Clinical director of ambulatory care & infusion services

Sponsors

- James Helstrom, MD, MBA
  - Chief Medical Officer

- Martin J. Edelman, MD
  - Chair, Department of Hematology/Oncology

- Efrat Dotan, MD
  - Chief, Division of GI Medical Oncology

- Jessica Bauman, MD
  - Hematology/Oncology Fellowship Program Director
Healthcare System

- Community providers with limited oncology experience may provide suboptimal symptom management, which can lead to unnecessary hospital admissions or acute care.
- Community providers do not always contact FCCC to discuss care/management.

Method

- No pre-emptive outreach to address unanswered questions.
- No routine identification of patients starting new chemo or who may require more attention between visits.

Providers

- Limited time during appointments to thoroughly review and prepare patients for new therapies.
- Limited staff to review all relevant information with patient & family.

FCCC System

- Long wait times to reach providers via phone triage.
- Delays in messages reaching appropriate provider once patient calls.

Patient/Family

- Limited understanding, don’t ask questions.
- Inappropriate medication management at home.
- Delay in calling with concerns/symptoms.

Increased wrap-around care (phone calls, unplanned acute care visits) to manage symptoms/issues and increased provider + patient dissatisfaction.
Aim Statement

- At least 50% of GI oncology patients starting new IV chemotherapy will be contacted through a standardized nurse phone call within 72 hours of their first infusion by June 2022
## Outcome Measures

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Measure:</strong></td>
<td><strong>Percent of GI oncology patients proactively contacted through a standard process within 72 hours of initiation of new IV chemotherapy</strong></td>
</tr>
<tr>
<td><strong>Patient population:</strong></td>
<td><strong>GI medical oncology patients at FCCC</strong></td>
</tr>
</tbody>
</table>
| **Calculation methodology:**              | **Numerator:** Number of patients with GI malignancies contacted within 72 hours of first cycle of new IV chemotherapy  
**Denominator:** Number of patients with GI malignancies identified as starting new IV chemotherapy **|  |
| **Data source:**                          | **List of all FCCC patients receiving new IV chemotherapy generated by infusion room schedulers, reviewed & verified by clinical nurse manager**  |
| **Data collection frequency:**            | **Weekly**                                                                                                                                    |
| **Data limitations:**                     | **Appropriate documentation, patient list accuracy, patient availability to be contacted, communication between staff involved**               |
## Process Measures

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Measure:</strong></td>
<td>Frequency of infusion scheduler distributing weekly list of medical oncology patients starting new IV chemotherapy (C1D1 list) to clinical nurse manager</td>
</tr>
<tr>
<td><strong>Patient population:</strong> (Exclusions, if any)</td>
<td>GI medical oncology patients starting new IV chemotherapy</td>
</tr>
</tbody>
</table>
| **Calculation methodology:** (i.e. numerator & denominator) | **Numerator:** Number of times infusion scheduler distributes C1D1 list to clinical nurse manager  
**Denominator:** Number of weeks since initiative began  |
<p>| <strong>Data source:</strong>                          | C1D1 email list generated by infusion room scheduler; clinical nurse manager email                                                           |
| <strong>Data collection frequency:</strong>            | Weekly                                                                                                                                 |
| <strong>Data limitations:</strong> (if applicable)     | Consistency and frequency of list generation and distribution; list accuracy                                                                  |</p>
<table>
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<tr>
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<tbody>
<tr>
<td><strong>Measure:</strong></td>
<td>Accuracy of clinical nurse manager identifying GI oncology patients on C1D1 list</td>
</tr>
<tr>
<td><strong>Patient population:</strong></td>
<td>GI medical oncology patients starting new IV chemotherapy</td>
</tr>
<tr>
<td><strong>Calculation methodology:</strong></td>
<td><strong>Numerator:</strong> Number of GI oncology patients from C1D1 list identified</td>
</tr>
<tr>
<td></td>
<td><strong>Denominator:</strong> Number of GI oncology patients on C1D1 list</td>
</tr>
<tr>
<td><strong>Data source:</strong></td>
<td>Clinical nurse manager distribution email, C1D1 email list generated by infusion room scheduler</td>
</tr>
<tr>
<td><strong>Data collection frequency:</strong></td>
<td>Weekly</td>
</tr>
<tr>
<td><strong>Data limitations:</strong></td>
<td>Consistency &amp; accuracy in identifying all GI oncology patients</td>
</tr>
</tbody>
</table>
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</tbody>
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Denominator: Number of weeks since initiative began                  |
| **Data source:**                                                    | Clinical nurse manager email, C1D1 email list generated by infusion room scheduler            |
| **Data collection frequency:**                                       | Weekly                                                                                       |
| **Data limitations:**                                               | Consistency & frequency in list distribution, appropriate recipients                         |
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<td><strong>Patient population:</strong> <em>(Exclusions, if any)</em></td>
<td>GI medical oncology patients starting new IV chemotherapy</td>
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**Denominator:** Number of weeks since initiative began |
| **Data source:** | Clinical nurse manager email, C1D1 email list generated by infusion room scheduler |
| **Data collection frequency:** | Weekly |
| **Data limitations:** *(if applicable)* | Consistency & frequency sending reminder, appropriate recipients |
Baseline Data

- Gastrointestinal (GI) medical oncology patients disproportionately contribute to acute unplanned care services at FCCC
  - Between January 2014 – June 2018, patients with GI malignancies comprised 24% of visits to Jeanes Hospital Emergency Department & 29% of visits at FCCC Direct Referral Unit (urgent care center)
  - On average, during Q1 2020 – Q2 2021, 36% of patients admitted to FCCC hospital had a GI malignancy diagnosis
  - Most patients (X%) experience chemotherapy-related side effects within 72 hours of starting new chemotherapy, which triggers patient-initiated phone calls, acute care needs
## Prioritized List of Actions (Priority/Pay-Off Matrix)

<table>
<thead>
<tr>
<th>High Impact</th>
<th>Easy</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMR smart phrase for outreach call documentation</td>
<td>- Formal assignment of patients to specific nurses</td>
</tr>
<tr>
<td>Weekly email reminder to GI oncology nurses</td>
<td>- Automated EMR patient assignment and/or reminder</td>
</tr>
<tr>
<td></td>
<td>- Manual chart review to verify if calls were made</td>
</tr>
<tr>
<td></td>
<td>- Automated EMR reports of outreach calls</td>
</tr>
<tr>
<td></td>
<td>- Standardizing workflow for call distribution</td>
</tr>
<tr>
<td></td>
<td>- Clinical nursing staff consistency</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Low Impact</th>
<th>Difficult</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generating C1D1 list</td>
<td>- Multiple phone calls if patients do not answer</td>
</tr>
<tr>
<td>Distributing C1D1 list</td>
<td></td>
</tr>
</tbody>
</table>
## PDSA Plan (Test of Change)

<table>
<thead>
<tr>
<th>Date of PDSA Cycle</th>
<th>Description of Intervention</th>
<th>Results</th>
<th>Action Steps</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 3/14/2022</td>
<td>Initiate outreach calls</td>
<td>Inconsistent call rate but most patient calls are made within 72h</td>
<td>Discuss optimal intervention with nurses to assign calls</td>
</tr>
<tr>
<td>2 4/15/2022</td>
<td>Met with clinical nurses for feedback on outreach calls</td>
<td>Increased engagement and buy-in from nursing</td>
<td>Add mid-week reminder to make outreach calls</td>
</tr>
<tr>
<td>3 5/23/2022</td>
<td>Added mid-week reminder for nurses to make outreach calls</td>
<td>Increased consistency in percent of patients called within 72h</td>
<td>Formalize and standardize workflow for assigning patients to RN (e.g., EMR automation)</td>
</tr>
</tbody>
</table>
Materials Developed

User SmartPhrase – CYCLEONECALLS [291086]

- Patient answered: (Yes/No:27009)
  If No, was message left: (Yes/No:27010)
- Did you have any problems with your infusion? (Yes/No:27011)
- Do you have any symptoms right now that you feel are related to your therapy? (Yes/No:27012)
- What medications have you used to manage your symptoms? {Onc Medications Used:27013}
  - Do you have any questions about how to take these medications? (Yes/No/NA:27014)
  - Do you need any refills for these medications? (Yes/No/NA:27015)
- Do you have questions about your upcoming appointment with your Oncologist? (Yes/No:27016)
- Do you know how to get in touch with your care team during daytime, night-time and weekend hours? (Yes/No:27017)

Patient answered: Yes
If No, was message left: N/A
Did you have any problems with your infusion? Yes
Do you have any symptoms right now that you feel are related to your therapy? Yes. Patient has had multiple episodes of diarrhea and vomiting since this morning. He expressed difficulty with travel back to FCCC for disconnect due to nausea/vomiting/diarrhea.

What medications have you used to manage your symptoms? Patient said he took a pill when he was at FCCC getting disconnected today. He was unsure of name.

Do you have any questions about how to take these medications? Yes. Patient unable to verbalize how to use medications to manage symptoms. I reviewed use of Zofran and Compazine and suggested patient alternate each medication every 4 hours over the weekend. I also reviewed use of Imodium and discussed how to dose on a daily basis. I stressed importance of patient managing symptoms in order to avoid dehydration. Patient encouraged to contact us if symptoms are not controlled with above regimen. Patient verbalized understanding.

Do you need any refills for these medications? No
Do you have questions about your upcoming appointment with your Oncologist? No
Do you know how to get in touch with your care team during daytime, night-time and weekend hours? Yes; patient had number for nurse triage line. After hours number provided.

Electronically signed by Margaret O'Brien, RN at 5/13/2022 4:44 PM
<table>
<thead>
<tr>
<th>Week</th>
<th>Patients Treated</th>
<th>Patients Called</th>
<th>Patients called within 72h</th>
<th>% Called with 72h</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/14/22</td>
<td>5</td>
<td>2</td>
<td>1</td>
<td>20%</td>
</tr>
<tr>
<td>3/21/22</td>
<td>8</td>
<td>6</td>
<td>6</td>
<td>75%</td>
</tr>
<tr>
<td>3/28/22</td>
<td>6</td>
<td>1</td>
<td>1</td>
<td>17%</td>
</tr>
<tr>
<td>4/4/22</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>4/11/22</td>
<td>10</td>
<td>7</td>
<td>6</td>
<td>60%</td>
</tr>
<tr>
<td>4/18/22</td>
<td>5</td>
<td>3</td>
<td>3</td>
<td>60%</td>
</tr>
<tr>
<td>4/25/22</td>
<td>8</td>
<td>4</td>
<td>4</td>
<td>50%</td>
</tr>
<tr>
<td>5/2/22</td>
<td>6</td>
<td>5</td>
<td>5</td>
<td>83%</td>
</tr>
<tr>
<td>5/9/22</td>
<td>6</td>
<td>2</td>
<td>2</td>
<td>33%</td>
</tr>
<tr>
<td>5/16/22</td>
<td>8</td>
<td>7</td>
<td>7</td>
<td>88%</td>
</tr>
<tr>
<td>5/23/22</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>5/30/22</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>67%</td>
</tr>
</tbody>
</table>
1 - Initiate outreach calls
2 - Met with clinical nurses for feedback on outreach calls
3 - Added mid-week reminder for nurses to make outreach calls
Conclusions

- In the first 12 weeks of this initiative, 40 (56%) of 71 treated patients were called and 37 patients were called within 72 hours (52%)
  - Of the patients who were called, 92.5% were called within the intended time frame

- We met our goal of calling at least 50% of these patients in 7 out of the first 12 weeks of this new initiative
  - This QI initiative successfully implemented a nurse outreach call to GI oncology patients starting new therapies
Next Steps/Plan for Sustainability

- We aim to standardize outreach to patients with organized symptom management and patient education resources while striving to automate performance monitoring using iterative PDSA cycles.

- Further evaluation of this intervention, which will eventually better identify patients at highest risk for acute unplanned care needs, will assess the impact on patient-reported outcomes and health care utilization.

- We plan to collect more baseline data (e.g., how many patients call within 72h at baseline) to better assess the impact of this initiative.

- We aim to improve the quality and impact of proactive outreach to patients at high risk for acute unplanned care.
Implementation of a Proactive Outreach Program to Patients with Gastrointestinal Malignancies Starting New Chemotherapy Regimens

**AIM:** At least 50% of GI oncology patients starting new IV chemotherapy will be contacted through a standardized nurse phone call within 72 hours of their first infusion by June 2022

**INTERVENTION:**
- Initiated nursing-led outreach phone calls to GI oncology patients starting new IV chemotherapy
- Created smart phrase for efficient yet comprehensive documentation of outreach calls in EMR
- Met with clinical nurses for feedback on outreach calls
- Added mid-week reminder for nurses to make outreach calls

**RESULTS:** 40 (56%) of 71 patients receiving a new IVC were called and 37 (52%) of the patients were called within 72 hours. Of the patients who were called, 93% were called within the intended time frame.

**CONCLUSIONS:**
- In the first 12 weeks of this initiative, 40 (56%) of 71 treated patients were called and 37 (52%) patients were called within 72 hours. Of the patients who were called, 92.5% were called within the intended time frame.

**NEXT STEPS:**
- Standardize outreach to patients with organized symptom management and patient education resources while striving to automate performance monitoring using iterative PDSA cycles
- Further evaluate this intervention in order to better identify patients at highest risk for acute unplanned care needs and assess the impact on patient-reported outcomes and health care utilization
- Collect more baseline data (e.g., how many patients call within 72h at baseline)
- Improve the quality and impact of proactive outreach to patients at high risk for acute unplanned care