ASCO’s Quality Training Program

Grady Health System
Georgia Cancer Center for Excellence

Oral Anticancer Medication Adherence
Institutional Overview

First Cancer Center of Excellence in the state.

Academic partnership with Emory and Morehouse physicians.

The largest hospital in the state of Georgia.

The busiest level 1 trauma center in the country.

The fifth largest hospital in the United States.
Problem Statement

A retrospective review of 30 patients during 2013-2016 demonstrated a 30% adherence to oral anticancer medications (OAM).

Adherence*: Drug available ≥ 80% to < 120% of days evaluated.

*Adherence was calculated using the “days covered” method.
<table>
<thead>
<tr>
<th>Team Member</th>
<th>Role/Discipline</th>
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<tbody>
<tr>
<td>Leon Bernal-Mizrachi, MD</td>
<td>Hematologist</td>
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<td>Craig Tindall</td>
<td>SVP Clinical Operations – Project Sponsor</td>
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<td>Marjorie Curry, PharmD, BCOP</td>
<td>Clinical Pharmacist, Hematology/Oncology</td>
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<td>Winifred Bell, RN</td>
<td>Oncology Nurse Supervisor</td>
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<td>Darica Flood</td>
<td>Oncology Manager</td>
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<td>Pooja Mishra</td>
<td>Executive Director</td>
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<td>Steve Power</td>
<td>QTP Coach</td>
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<tr>
<td>Arif Kamal, MD</td>
<td>QTP Coach</td>
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Process Map – Pre Intervention

Oral Anticancer Medication Adherence Workflow

1. Patient arrives
2. Check-in and wrist band
3. Patient back to the waiting area
4. Calls patient back for labs
5. Patient back to the waiting area
6. Exam Room Available
7. Vitals and weight obtained. Patient roomed
8. Consent obtained
9. MD Assessment
10. Is patient under insured or uninsured?
   - YES: Pink sheet attached to labels
   - NO: Oral Chemo therapy prescribed
11. Oral Chemo therapy prescribed
12. Is the patient under insured or uninsured?
   - YES: Call PAP Coordinator
   - NO: IV Therapy prescribed
13. IV Therapy prescribed
14. Treatment Plan created
15. Education & Discharge Plan
Diagnostic Data

- Non-Adherent 2011-2013: n=10
- Adherent 2011-2013: n=15 (60%)
- Non-Adherent 2013-2016: n=21
- Adherent 2013-2016: n=9 (30%)
Areas selected for intervention

- Provider Support
  - Lack of explanation on how to take medication
  - No support on how to manage toxicity
  - Refills not ordered by the provider
  - Providers not using treatment plans for PO chemo. IV initiated but not PO
  - No one to make follow up calls
  - No adherence monitoring/assessment

- Patient
  - Lack of compliance with clinic appointments
  - Language/communication barriers
  - Forgot to get refilled
  - Forgot to take medication
  - Multiple pharmacies

- Financial
  - Cost of co-pay MD visit
  - Can not afford cost of prescription
  - Medication authorization denials
  - No health insurance

- Transportation
  - Lack of transportation to appointments

- Support Services
  - No support group
  - No family support
  - No tools at home to facilitate taking
  - No support on how to manage toxicity

- Education
  - Lack of education
  - Lack of understanding
  -_complexity of regimen

- Access to Medication
  - Drug not available
  - No delivery by time of medication
  - Pharmacy drug refill not available on time

- Non-Adherence to Oral Chemo
  - Increase side effects
  - Difficult to swallow
  - Wanting to control symptoms as a result stops taking

- Side Effects
Diagnostic Data - Cause and Effect Diagram
Questionnaire Patient Group (n=24)

Ranking according to importance
More importance higher score

(SE Side Effects)

Score <3  Cumulative %

Percent (%)
Distribution of the 3 Most Important Specific Factors Derived From Major Categories - Patient Focused Group

- No family support
- Treatment highly associated with side effects
- Did not receive sufficient information on how to take medication
- No support on how to manage side effects
- No evaluation on how is patient taking medication
- No support groups
- Side effects were not controlled with palliative measures
- Refills not ordered
- No tools like pill organizer to help on taking medications
- Difficulty taking medication orally
- No follow up calls to see how is patient doing
- No medication chart/calendared reminder

Chosen area of intervention
Distribution of the 4 Major Specific Factors Derived From Major Categories - Providers Focused Group (N=23)

Problems already addressed by PAP and GCSA
Aim Statement

**Increase adherence by 20% by December 2016 and 30% by March 2017**
<table>
<thead>
<tr>
<th>Measure</th>
<th>Description</th>
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<tbody>
<tr>
<td>Patient adherence to oral anticancer medication (OAM) regimen.</td>
<td>Adherence is defined as having drug available ≥ 80% to &lt; 120% of days evaluated.</td>
</tr>
<tr>
<td>Patient Population</td>
<td>Patients seen by providers at the Georgia Cancer Center for Excellence at Grady Filling prescriptions for OAMs at the Cancer Center Pharmacy</td>
</tr>
<tr>
<td>Calculation Method</td>
<td>Adherence was calculated using the “days covered” method whereby the total number of doses available to the patient in a given time period is divided by the number of doses necessary to achieve 100% adherence during the same time period.</td>
</tr>
<tr>
<td>Data Source</td>
<td>Epic (Beacon) Treatment plans and Medication Prescription History RX30 and Symphony, outpatient prescription system</td>
</tr>
<tr>
<td>Data quality (any limitations)</td>
<td>Utilizing prescription refill history, an indirect measure of adherence Prescriptions filled through specialty pharmacies or outside pharmacies Lack of documentation within the medical record to document treatment delays Low utilization of Beacon Treatment Plans</td>
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PreIntervention Data

Patient initiated on OAM

OAM filled in the GCCE Pharmacy

Patient refills OAM > 2 times

Total number of refills throughout treatment duration recorded per patient

Adherence calculated per patient

Adherence: drug available ≥ 80% to < 120% of days evaluated
Prioritized List of Changes (Priority/Pay–Off Matrix)

| High Impact | Easy | Pill Organizer  
| Update Patient Instructions | Call Reminders  
| Pharmacy Clinic  
| After Hours Access | Oral Chemotherapy  
| Reminder Application | Community Health Worker |

| Low Impact | Difficult | |

Ease of Implementation

American Society of Clinical Oncology
# 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>
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<tbody>
<tr>
<td>November</td>
<td>Pill Organizer/Calendars</td>
<td>15 patients</td>
<td>On going</td>
</tr>
<tr>
<td>November</td>
<td>Pharmacy visit at treatment initiation</td>
<td>9 patients</td>
<td>On going</td>
</tr>
<tr>
<td>December 2016 - present</td>
<td>Pharmacy visit mid-cycle for toxicity assessment and Follow up</td>
<td>15 patients</td>
<td>On going</td>
</tr>
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</table>
• Evaluated patients prescribed oral therapy for cancer from 8/2015 to 8/2016
• Adherence evaluated across 4 quarters throughout the year
• Results demonstrated that adherence during the first 3 months (3 prescription fills) represent adherence throughout the year
• Prospectively adherence data was evaluated for the first 3 months of treatment
Disclosure: Intervention group has been followed prospectively for a short time. Out of 6 patients only 2 have received 3 cycles and 4 have received 2 cycles of oral therapy for cancer.
Conclusions

• The combination of pill organizer, calendar and involvement of pharmacy on the first visit as well as follow up in 13 patients shows a significant impact on patient adherence

• No patient was interested in using an APP to assist in treatment adherence

• A dedicated pharmacist will have significant impact on treatment adherence and patients navigation throughout treatment
Next Steps/Plan for Sustainability

• Collect data to negotiate with leadership for an additional Pharmacy FTE to assist in treatment initiation and during the first 3 months of treatment

• Establish a pharmacy clinic for new patients to evaluate adherence mid-cycle for 3 cycles

• Expand the number of clinics that utilize the intervention combo for patient adherence

• Evaluate the possibility of a community health worker to assist in early detection of toxicity and difficulty on patient adherence