Project Title: Anthem Home Health Anti-Emetic Compliance

Presenter’s Name: Jennifer Valerin, MD PhD

Institution: University of California, Irvine

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Problem Statement

Only 20% of patients enrolled in the Chao Family Cancer Center Anthem Home Care Program and receiving highly emetogenic treatment are within compliance with day 1 anti-emetic pre-medications leading to:

- Poor patient satisfaction
- Increased need for provider communication
- Increased ED visits
Process map

Patient seen by oncologist provider → Chemotherapy regimen determined → Consent obtained by oncologist → Chemo ordered in Beacon (pre-made build) → Chemo verified by pharmacist → New Beacon build made if new regimen → Patient given pre-med and chemo
Institutional Overview

- Orange County (OC) is home to 3.176 million residents
- OC is a majority-minority county (34% Latino and 21% Asian including the largest Vietnamese population in U.S.)
- UC Irvine Chao Family Cancer Center (CFCC) is the only academic cancer center based in OC
- Approximately 6000 cancer patient visits a month
Team members

Core Members:
Maki Yamamoto, MD
Jennifer Valerin (Goldstein), MD PhD
Kristen Neumann, NP

Supporting Members:
Abinav Baweja, MD
Alexandre Chan, PharmD, MPH
Benjamin Lee, PharmD
Daniel Hoang, PharmD
Naomie Devico Marciano, MS, MS1
Provider

MD doesn’t order pre-med covered by insurance

MD decides treatment and pre-med but doesn’t place order

Environment

Pre-med not given as ordered

Pharmacist doesn’t verify order and meds

Pre-med authorization doesn’t go through

No transparent cancer center anti-emetic guidelines

Bias

MD doesn’t document pre-med preference in note

Technology

No policy to update Beacon builds

Education

No anti-emetic physician education training modules

Anti-Emetic Compliance

Anti-Emetic Non-compliance
Diagnostic Data – Anti-emetic Compliance

![Anti-Emetic Compliance by Risk Categories - UCI ASCO QTP]

- **LOW**
  - Non-compliant: 2
  - Compliant: 13

- **MOD**
  - Non-compliant: 1
  - Compliant: 21

- **HIGH**
  - Non-compliant: 5
  - Compliant: 1
Pre-test item objectives:

1. To evaluate clinicians' understanding of anti-emetic risk category
2. To assess clinicians' ability to identify category 1 pre-medication anti-emetic regimens
3. To assess clinicians' ability to correctly verify dosing of anti-emetic medications
4. To assess clinicians' ability to identify category 1 pre-medication anti-emetic regimens
5. To assess clinicians' ability to identify category 1 pre-medication anti-emetic regimens
Diagnostic Data

Pareto Chart

- Incorrect steroid dose (10 mg vs 12 mg)
- Lack of 5-HT3 Drug
- Lack of olanzapine

Reason for non-compliance

#
Aim Statement

To improve the percentage of patients enrolled in the Chao Family Cancer Center Anthem Home Care Program receiving highly emetogenic treatment compliance with chemotherapy induced nausea pre-medications from 20% to 80% by January 1\textsuperscript{st} 2022
<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measure:</td>
<td>Surrogate measure of patient pre-medication compliance from process measure</td>
</tr>
<tr>
<td>Patient population:</td>
<td>Patients undergoing systemic treatment for all cancer histologies at the Chao Family Cancer Center enrolled in the Anthem Home Care Program</td>
</tr>
<tr>
<td>Calculation methodology:</td>
<td>High emetogenic: 6 Moderate emetogenic: 22 Low emetogenic: 15</td>
</tr>
<tr>
<td>Data source:</td>
<td>CFCC Infusion Center records, Epic, Anthem database</td>
</tr>
<tr>
<td>Data collection frequency:</td>
<td>Weekly</td>
</tr>
<tr>
<td>Data limitations:</td>
<td>Patient repeat records, recording of hospital admissions, actually scheduled admissions, etc</td>
</tr>
</tbody>
</table>
### Prioritized List of Changes (Priority/Pay Off Matrix)

<table>
<thead>
<tr>
<th>High Impact</th>
<th>Easy</th>
<th>Difficult</th>
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<tr>
<td><strong>1. Physician education</strong></td>
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**Ease of Implementation**

- High
- Low
- Easy
- Difficult

**Prioritized List of Changes (Priority/Pay Off Matrix)**

1. Physician education
2. Patient education program for oncology infusion therapies
   - 2. Epic Beacon build for anti-emetics (inclusion of olanzapine)
3. Steroid dose compliance
4. Streamline insurance authorization for medications
## 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>10/26/2021</td>
<td>Anti-emetic compliance assessment</td>
<td>Only 20% of patients at UCI Chao CCC Anthem Home Care are compliant with day 1 anti-emetics</td>
<td>Develop tools with pharmacy, IT to improve anti-emetic compliance in highly emetogenic regimens</td>
</tr>
<tr>
<td>11/30/2021</td>
<td>Anti-emetic regimen modification</td>
<td>75% of 101 regimen builds have been modified to include compliant anti-emetics</td>
<td>Continue to modify regimen builds and assess compliance rates as a result</td>
</tr>
<tr>
<td>1/2022</td>
<td>Physician Education</td>
<td>Pre-test results show 64% correct responses for anti-emetic topics at baseline</td>
<td>Repeat post-test at UCI faculty meeting in 1/2022 to assess impact of intervention</td>
</tr>
</tbody>
</table>
Change Data

• Anti-emetic compliance rates across UCI Chao Family Comprehensive Cancer Center
• Physician education metrics
• Run-data to be assessed for anti-emetic compliance, pending ongoing data accrual at UCI Chao Family CCC
Conclusions

• Importance of anti-emetic compliance
  ▪ Safety
  ▪ Enhanced therapeutic efficacy

• Lower compliance can be mitigated through a multidisciplinary intervention
  ▪ Stakeholders: Pharmacists, physicians, nurses, students, information technology
Next Steps/Plan for Sustainability

• Short-term goals
  ▪ Improve quality of care and patient satisfaction
  ▪ Add olanzapine to anti-emetic regimen builds in Epic Beacon
  ▪ Improve physician education as component of compliance

• Long term goals
  ▪ Measure ongoing anti-emetic compliance metrics
  ▪ Patient education (chemotherapy, infusions, side effects)
  ▪ Model for cancer care delivery (sustainable, equitable)