Physician burnout: An Innovative way to find “Sanity out of Madness” in the Infusion Center of a Cancer Institute

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Institutional Overview

- Medstar Washington Hospital Center (WHC) is a 912-bed major teaching and research institute.

- A tertiary care referral center and a major trauma center.

- Washington Cancer Institute (WCI) within WHC caters to a diverse patient population within the tristate area.

- There are over 2,200 patients seen at the Washington Cancer Institute, accounting for over 14,000 annual medical oncology/hematology visits.

- Our 29-bed infusion center provides treatment to over 900 patients a month.
Team members

- Chris Gallagher, Cancer Center Director / Project Sponsor
- Irina Veytsman, Medical Director of the Hematology/Oncology Department / Team leader
- Laurie Kaufman, QTP Facilitator
- Sarah Sewaralthahab, Oncology-Hematology Fellow / Core Team Member
- Linda King, Ambulatory Nurse Coordinator / Core Team Member
- Shaunika Thorne, Clinical Nurse, Infusion Center / Core Team Member
- Carrie Miller, Sr Clinical Social Work Coordinator / Team Member
- Debolina Goswami, Ambulatory Practice Manager/ Team Member
Process Measure

Diagnostic Data

Medstar Washington Cancer Institute Infusion Center
ASCO QTP

Infusion Delays

<table>
<thead>
<tr>
<th>Causes for Delays</th>
<th>0%</th>
<th>20%</th>
<th>40%</th>
<th>60%</th>
<th>80%</th>
<th>100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>No orders</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>No ok to treat orders</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>No labs</td>
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<tr>
<td>No consent</td>
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<tr>
<td>Pharmacy delay</td>
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<tr>
<td>Financial clearance</td>
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</tbody>
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# of Patients With Incomplete Charts

Causes for Delays
7/23/19-8/6/19
Problem Statement

In the time period from June 21\textsuperscript{st} 2019 to August 30th 2019, we noted that 13.18\% of patients scheduled to receive chemotherapy at WCI infusion center had missing orders on the day of the infusion, which resulted in up to a 111-minute delay in starting chemotherapy. This, in turn, resulted in stress/burnout among 42.1\% of providers and 55.6\% of supportive staff in addition to patient dissatisfaction.
## Process Measure

### Baseline data summary

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td><strong>Measure:</strong></td>
<td>Number or % of missing orders by 8 am on day of Chemo Infusion</td>
</tr>
<tr>
<td><strong>Patient population:</strong> <em>(Exclusions, if any)</em></td>
<td>All Hematology/Oncology patients presenting to WCI infusion center, excluding GYN Oncology patients</td>
</tr>
<tr>
<td><strong>Calculation methodology:</strong> <em>(i.e. numerator &amp; denominator)</em></td>
<td># of patients with missing orders / # of total patients receiving chemo the same day</td>
</tr>
<tr>
<td><strong>Data source:</strong></td>
<td>Infusion center data collection</td>
</tr>
<tr>
<td><strong>Data collection frequency:</strong></td>
<td>Daily</td>
</tr>
<tr>
<td><strong>Data limitations:</strong> <em>(if applicable)</em></td>
<td>difficulty to retrospectively extract the type of missing data (missing chemo orders vs un-signed orders vs missing labs).</td>
</tr>
</tbody>
</table>
Outcome Measure
Baseline data

Percentage of total patients with missing orders

Median: 13%
Aim Statement

Decrease the number of missing orders of patients coming to the IC directly or from the clinic by 50% by Nov. 20, 2019 in an effort to decrease resultant stress on providers and IC nurses.
Patient planned for Cycle X of chemo

1. Obtain prior auth 5-7 days prior to chemo date (for each cycle)

2. IC appt scheduled on date requested by provider?
   - Yes
   - No

   MD must adjust all chemo and lab orders to reflect new IC appt date

3. Order all chemo in EMR for all pts on weekend prior

4. Order labs 24-72 hrs prior to chemo

5. Review all new labs every "morning"

   Labs done?
   - Yes
   - No

   Labs OK?
   - Yes
   - No

   Cancel IC appt and call pt to reschedule

   Follow up on STAT labs while pt waiting and clinic running

6. See in clinic + order stat labs + IC for chemo appt same day

7. Place "OK to treat" in EMR for chemo day

Chemo given, next dose scheduled

* transport/social issues
Summary of Learning:
- Most delays are due to scheduling issues (not IC slots, delays in scheduling, empiric appts).
- Improving communication between providers & nurses is key.
Priority / Pay-off Matrix

Countermeasures

Ease of Implementation

High

Labs ordered 48 hrs prior to IC appt
Send out email reminder to providers with missing orders
Check IC ptsns list @ 2pm the day prior

Low

Clinic MA pulls report of missing orders daily
MD have personal daily reminders

Easy

Resource nurse @ IC assigned to review list of missing orders 24 hours prior
IT: auto generate list of missing orders

Difficult

Order chemo while in clinic
Labs ordered by NN in clinic
IC nurse able to adjust orders
## Test of Change

### PDSA Plan

<table>
<thead>
<tr>
<th>Date</th>
<th>PDSA Description</th>
<th>Result</th>
</tr>
</thead>
</table>
| 10/2/19 – 10/21/19 | PDSA 1:  
- Send email notification to all providers and nurse navigators regarding missing orders 48 hours prior to IC appointment.  
- Encourage providers to obtain necessary labs 48 hours prior to IC appointment  
- Review labs and sign orders by 2 pm the day prior to IC appointment. | Decrease in the median % of patients with missing orders to 7%          |
| 10/22/19 – 11/11/19 | PDSA 2:  
- Pharmacy to release premedication even if chemo order needs dose adjustment.  
- Reinforce PDSA1 changes                                                                 | Median % of patients with missing orders noted to further decrease down to 5% for the time period 11/4 – 11/11. |
Process Measure
Change Data

P Chart: % of ptsns with missing orders at 8 am on day of IC appt

- **UCL**: 0.35
- **CL**: 0.06
- **LCL**: 0.06

**PDSA 1**: 2-Oct
**PDSA 2**: 22-Oct
• We met our aim of decreasing the number of missing orders by ~50%!
• Our mean was reduced from 13% down to 7% in PDSA 1 & 2.
• No change in % of missing orders between PDSA1 & PDSA2.
• Reinforcing the importance of ordering labs 48 hours prior to appointments and signing chemo order by 2 pm the day prior to IC appointment will likely result in further improvements.
• Further data is needed to determine the long term effects of delays in treatment.
• The effects of this intervention on burnout will be evaluated down the line.
<table>
<thead>
<tr>
<th>Next Steps</th>
<th>Owner</th>
</tr>
</thead>
<tbody>
<tr>
<td>Train multiple administrators in the administration office to run reports identifying missing orders</td>
<td>Debolina Goswami</td>
</tr>
<tr>
<td>Train nurse navigators to run reports to identify missing orders in case of administrators are unable to</td>
<td>Linda King / Debolina Goswami</td>
</tr>
<tr>
<td>Continue to monitor data daily with review of finding every 2 weeks during operational leadership meeting</td>
<td>Shaunika Thorne</td>
</tr>
<tr>
<td>Identify new opportunities for PDSA interventions and implementation. Continue to analyze data on a regular basis to help identify new challenges.</td>
<td>Sarah Sewaralthahab / Irina Veytsman</td>
</tr>
</tbody>
</table>
Thank you
AIM: Decrease the number of missing orders of patients coming to the IC directly or from the clinic by 50% by Nov. 20, 2019 in an effort to decrease resultant stress on providers and IC nurses.

INTERVENTION:

PDSA 1
- Send email notification to all providers and nurse navigators regarding missing order 48 hours prior to IC appointment.
- Encourage providers to obtain necessary labs 48 hours prior to IC appointment
- Providers to review labs and sign orders by 2 pm the day prior to IC appointment.
- Administrator will run a report to identify the number of missing order for each day at 8 am.

PDSA 1
- Pharmacy to release premedication even if chemo order needs dose adjustment.

RESULTS:

Our aim of decreasing the number of missing orders by 50% was met; the median decreased from 13% down to 7% during PDSA 1&2
- No difference on % of missing orders between PDSA 1 and PDSA 2.

NEXT STEPS:
- Reinforce the practice of ordering labs 48 hours prior to IC appointment and placing chemo orders 24 hours prior.
- Train the nurse navigators and administrators to run reports of missing providers.
- Build automated physician reminders into upcoming EMR system