

ASCO's Quality Training Program

Project Title: Oral Capecitabine Documentation
in the Electronic Medical Record Flow sheet

Presenters:

Jason Brown M.D.

Calvin Han M.D.

Betsy Brown RN, BSN, OCN, CRNI

Institution: Yolanda G. Barco Oncology Institute

Date: March 6, 2014

Institutional Overview

- Yolanda G. Barco Oncology Institute (YGBOI) of Meadville Medical Center (MMC) is a hospital based community cancer center operating as a department of an independent rural community hospital in Western Pennsylvania servicing approximately 225,000 individuals in Northwestern Pennsylvania.
- The providers at the facility include four Medical Hematologists/Oncologists, one Radiation Oncologist, one Physician Assistant, Pharmacy, ONS certified Nursing, and support staff.

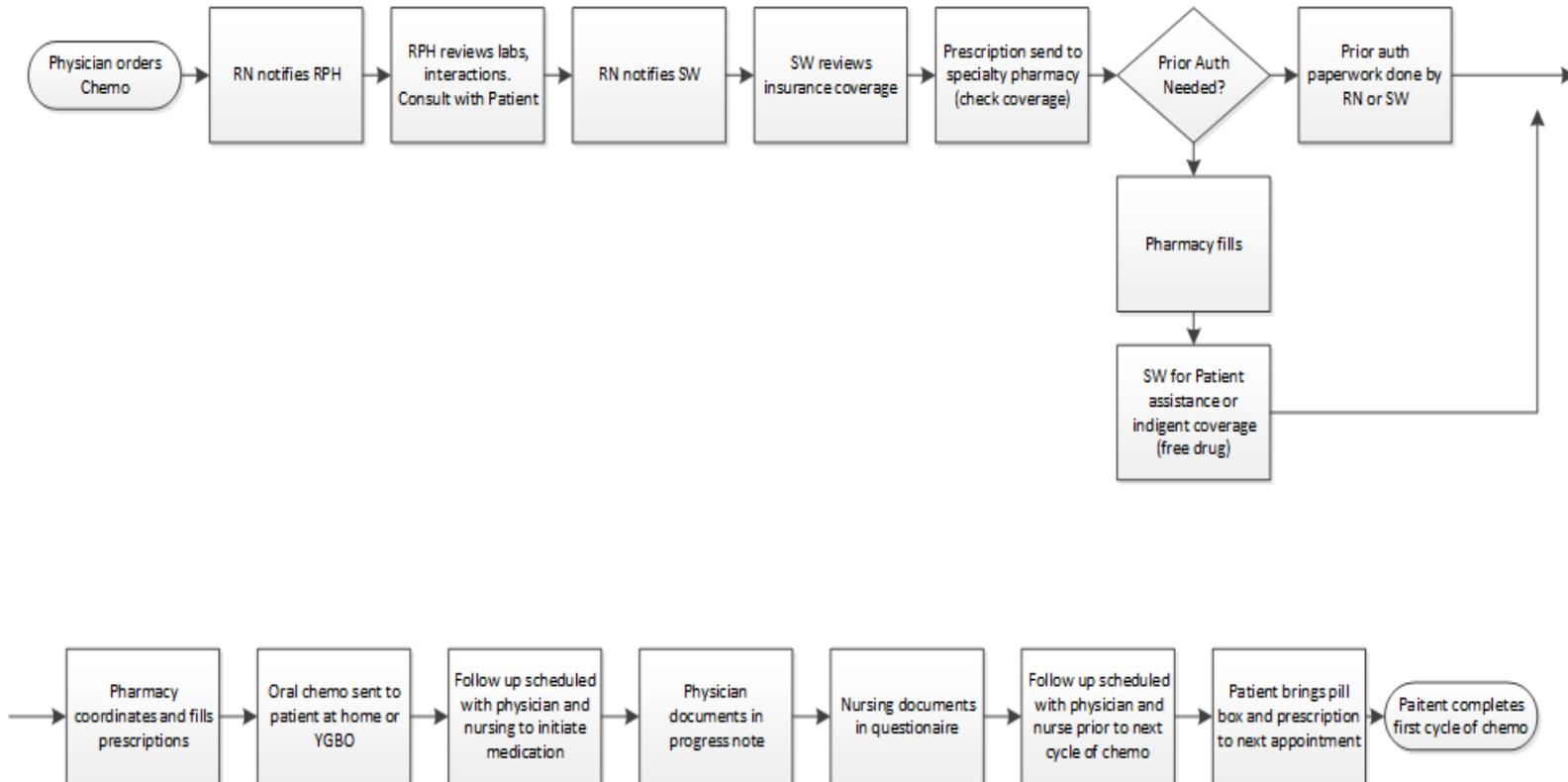
Problem Statement

Patients at Yolanda G. Barco Oncology Institute (YGBOI) are often prescribed oral anti-neoplastic agents such as Capecitabine (Xeloda[®]). There is no standardized documentation of the dose prescribed, dosage adjustments, or dose administered per cycle (dose intensity) in the current EMR flow sheet making tracking of chemotherapy toxicities, dose intensities, and therapy adjustments time consuming, cumbersome, and potentially dangerous to patients.

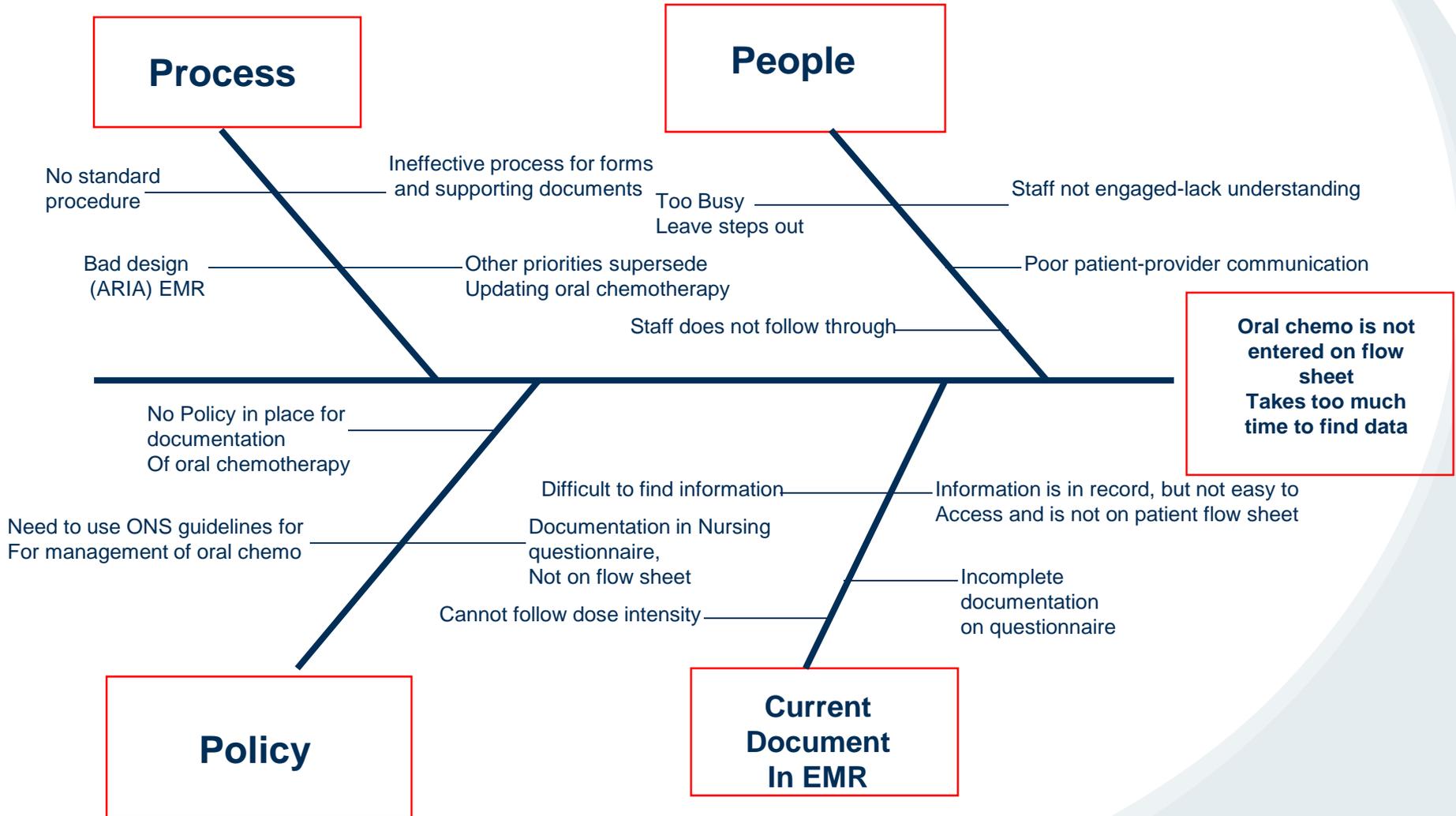
Team Members

- *Project Sponsor*
- Valerie Bond Waid MBA, BSN, FACHE - VP Clinical Operations - Meadville Medical Center (Director of YGBOI)
- *Team Leader*
- Jason Brown, MD YGBOI - Medical Director
- *Core Team Member*
- Calvin Han, MD YGBOI - Director of Education
- *Core Team Member*
- Betsy Brown, RN, BSN, OCN, CRNI YGBOI - Medical Oncology Dept Manager
- *Facilitator*
- Jason Brown, MD
- *Other Team Members*
- Dawnmel Grove, RN, OCN Chemotherapy Nurse
- Susan Hering RN, OCN Chemotherapy Nurse
- Leighanne Young, RPH YGBOI-Pharmacist
- Stephanie Swanson, LPN YGBOI-LPN- Triage Nurse for Dr. Brown
- Shelley Pence BSW Social Worker
- *QTP Improvement Coach*
- Laurie Kaufman, MSN, RN
Provides remote support to team for science of quality improvement & participation in the QTP.

Process Map (Current)



Cause & Effect Diagram



Diagnostic Data

- **Report the percentage of patients prescribed Capecitabine documented in the EMR flow sheet at baseline and incrementally throughout the improvement project.**
- **Obtain Baseline data on time required by nursing to evaluate for prescribed dose, dose adjustments, dose delivered, and reported toxicities for ten patients on Capecitabine by current method of chart and progress note review.**

Baseline Data

- There is NO documentation of oral chemo on flow sheet at Baseline (0/10)
- Documented **on** flow sheet 0% of time prior to project.
- 230 minutes for 10 patients averaging 23 minutes of nursing time per patient to determine prescribed regimen, dose intensity, and toxicities

Aim Statement

By March 31, 2014, increase EMR flow sheet documentation of Capecitabine prescribed regimen, dosage adjustments, dose intensity, and toxicities to 90 % for adult patients currently on or starting Capecitabine therapy during the study period.

Measures

- Measure (process):
 - A. Minutes of time for nursing to document in EMR flow sheet prescribed dose, dose intensity and toxicities
- Measure (balance)
 - Nursing time (minutes) to determine Capecitabine prescribed dose, dose intensity, and toxicities via new and old documentation methodologies.
- Patient population:
 - Adult patients of YGBOI on Capecitabine oral chemotherapy
- Calculation methodology:
 - Reviewed 10 charts of active patients for July – December 2013, 230 minutes for 10 patients averaging 23 minutes per patient to determine prescribed regimen, dose intensity, and toxicities
 - Tracked percentage of patients with newly designed flow sheet documentation
 - Nursing tracked time required for documentation and review of charts.
- Data source: Reports (nursing documentation, physician progress notes, pharmacy documentation) in ARIA EMR, nursing recorded timesheets.
- Data collection frequency: Per Capecitabine cycle
- Data quality (any limitations): Manual entering of dose and prescription into EMR (if not entered--not traceable), Independent timesheet entry.

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

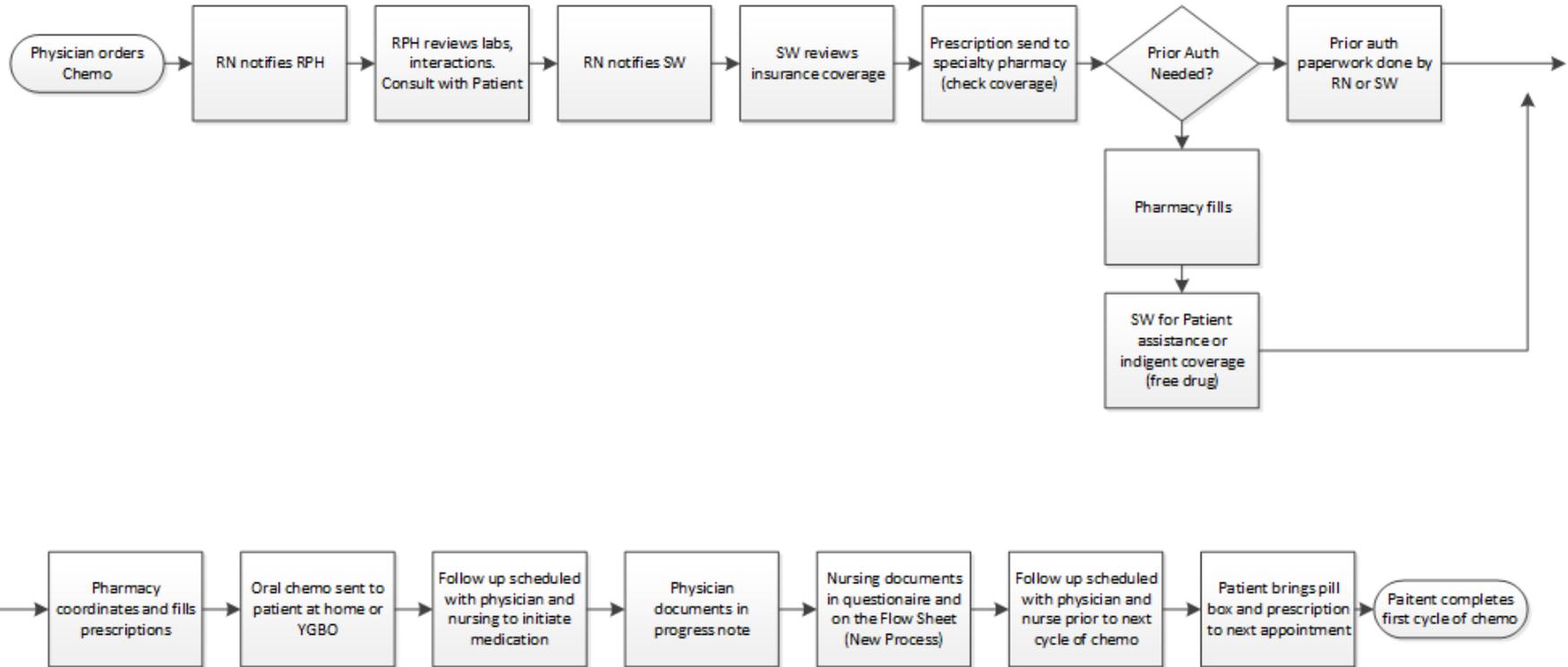
Impact	High	<p>Define Complete Documentation:</p> <ul style="list-style-type: none">▪ Cycles, doses taken, dose reductions, reported toxicities	<ul style="list-style-type: none">▪ Formalize Pharmacy's current reconciliation of current home meds▪ Formalize Pharmacy's review of potential drug-drug interactions
	Low	<p>Document oral chemotherapy dosing in EMR flow sheet</p>	
		Easy	Difficult

Ease of Implementation

PDSA Plan (Tests of Change)

Date of PDSA cycle	Description of intervention	Results	Action steps
10/20/13-02/28/14	Worked with Varian Software admin to research ways to document oral chemo on EMR flow sheet. Devised new method-similar to method being used by other Varian Customers	Oral/Chemotherapy monitoring added as a requisition that nurses use to document regimen, dose admin and adjustment, toxicities. Nurses begin new Documentation process	Nurses have access to requisition and can document details of oral chemo to flow sheet to include cycles, doses taken and toxicities.
12/15/13 – 12/30/14	Meet with physicians to educate on how to see oral chemotherapy on flow sheet	Physician must click on the oral chemotherapy box in order to expand full details about dosing	Train physicians to locate and review data on flow sheet.
01/15/2014-02/28/14	Meet with Pharmacy, social work, medical assistants, LPN's, Radiation Nurses and support staff In-Service inter-disciplines to view the flow sheet	Pharmacists, Social Workers, support staff will be able to locate information and details about oral chemo efficiently and with ease	In-Service inter-disciplines to view the flow sheet and to click to expand details.

Process Map (Future)



Materials Developed

New process will allow nurses to enter oral chemo into patient flow sheet

The screenshot shows a software window titled "Manager" with a menu bar (File, Workup, Assessments, Manage Tx, View, Pharmacy, System Admin, Window, Applications, Help) and a toolbar with various icons. The main window is titled "Add Tests/Requisitions to the Test Order" and contains the text "Blank requisitions to add to the order:" followed by a table. The table has four columns: Priority, Requisition Name, Specimen Allowed, and Requisition Printable. The row for "Oral Chemo/Biotherapy Management" is highlighted with a red oval.

Priority	Requisition Name	Specimen Allowed	Requisition Printable
10	MMC Lab Requisition	Yes	Yes
20	Affiliated Lab Req	Yes	Yes
30	PT/INR Requisition	No	Yes
40	Affiliated Diag Imaging Req	No	Yes
50	Affiliated Cardiology Req	No	Yes
60	Affiliated Pulmonary Req	Yes	Yes
70	OWI Vital Signs	No	Yes
80	Oral Chemo/Biotherapy Management	Yes	Yes

Materials Developed

Nurses will enter current dose and are able to make note of changes in dosage and toxicities in the space for new dose.

The screenshot shows a software window titled "Modify Oral Chemo/Biotherapy Management (100100023) - zshotdog, Oscar - M0233002 - Birthdate: Feb 18, 2006 *** NOT AN ...". The interface includes a menu bar (File, Workup, Assessments, Manage Tx, View, Pharmacy, System Admin, Window, Applications, Help) and a toolbar with various icons. The main area contains a form with the following fields and controls:

- Collected: 12/19/2013
- Time: 05:38
- Abn. Only:
- Result Set: Full
- Approve:
- Oral Chemo Current dose:
- Oral Chemo New dose:

At the bottom of the window, there are buttons for "Print", "New", "Error...", "Entered Approve", "All Approve", "OK", "Cancel", and "Close". A red oval highlights the "Oral Chemo Current dose" and "Oral Chemo New dose" input fields.

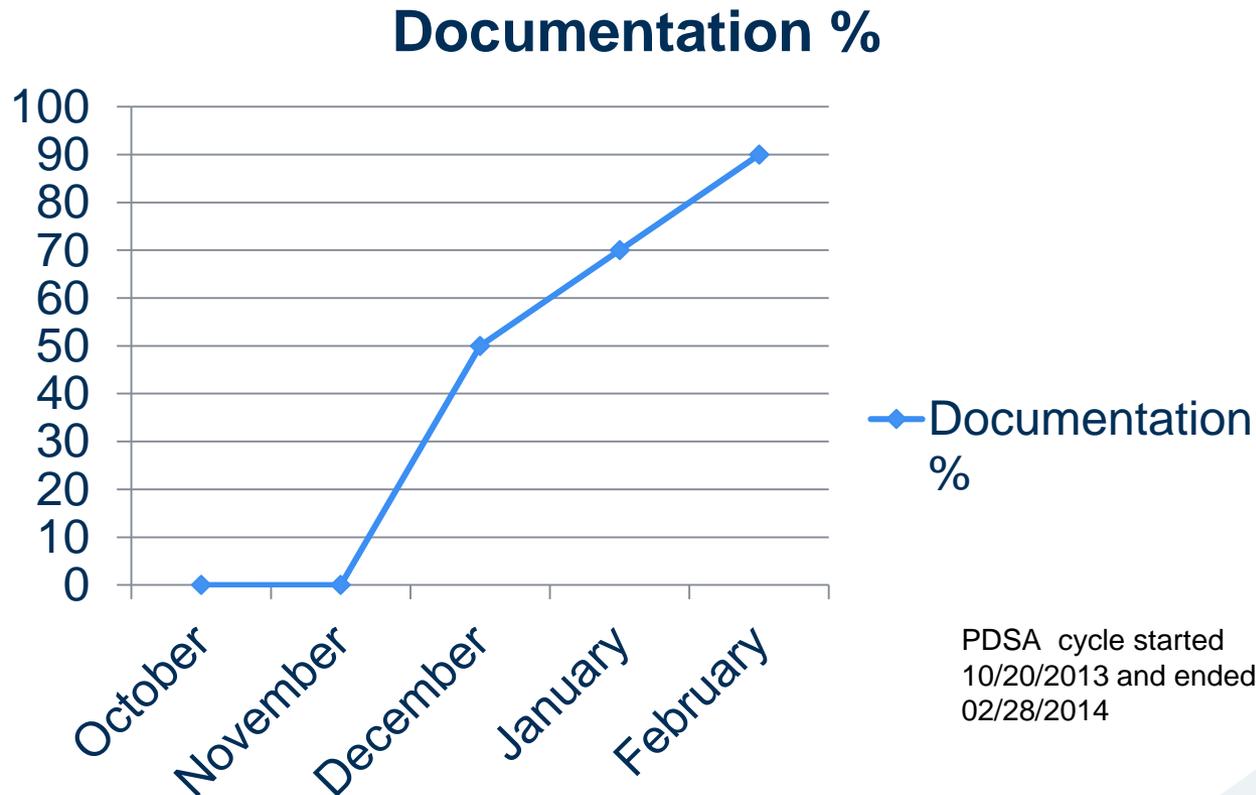
Materials Developed

Cycles are tracked and documented on flow sheet. Right clicking on space where green dot is on the flow sheet offers complete detailed information – easy access for all of the Disciplines

The screenshot displays a medical software window titled "Manager" with a menu bar (File, Workup, Assessments, Manage Tx, View, Pharmacy, System Admin, Window, Applications, Help) and a toolbar. The main window shows a "Flow Sheet" for patient "zzhotdog, Oscar" (M0233002, Birthdate: Feb 18, 2006). The flow sheet is organized into sections: A/G Ratio, eGFR, GFR (African American, Non-African-American), Glucose (Fasting), Occ Bld Date/Time #1 and #2, Occult Blood #1 and #3, Osmolality - Calculated, Oral Chemo, Coagulation, and Vital Signs. A red circle highlights a green dot in the "Oral Chemo" section, specifically in the "Oral Chemo Current dose" row. A right-click context menu is open over this dot, listing various medical disciplines: A/G Ratio, eGFR, GFR African American, GFR Non-African-American Globulin, Glucose, Fasting, Occ Bld Date/Time #1, Occ Bld Date/Time #2, Occult Blood # 1, Occult Blood # 3, Osmolality - Calculated, Oral Chemo, Oral Chemo Current dose, Oral Chemo New dose, Coagulation, PT, Coumadin, Current Dose, Coumadin, New Dose, Vital Signs, Height, Weight, BSA, Respiration, Temperature, and Pulse. On the right side of the interface, there is a "View/Date Range" panel with a dropdown menu set to "All Days with Data", date selection fields for "Date" (12/19/2013) and "To" (12/19/2013), a "View" dropdown set to "(none)", and buttons for "Choose Data...", "Edit...", "Save As", "Print", "Refresh", and "Close".

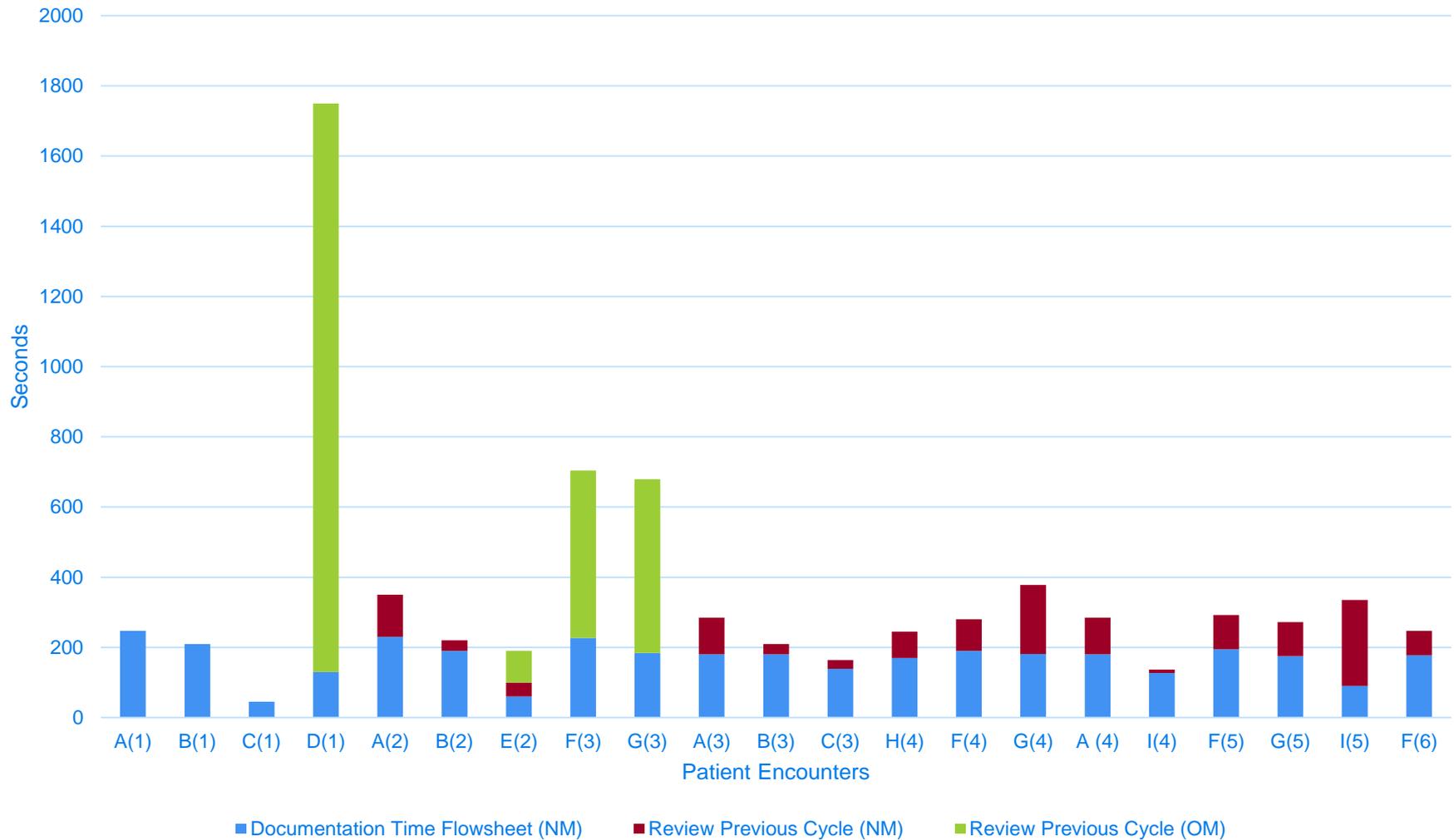
Change Data

Time to research dose intensity and Percent of complete Documentation on Flow sheet in EMR

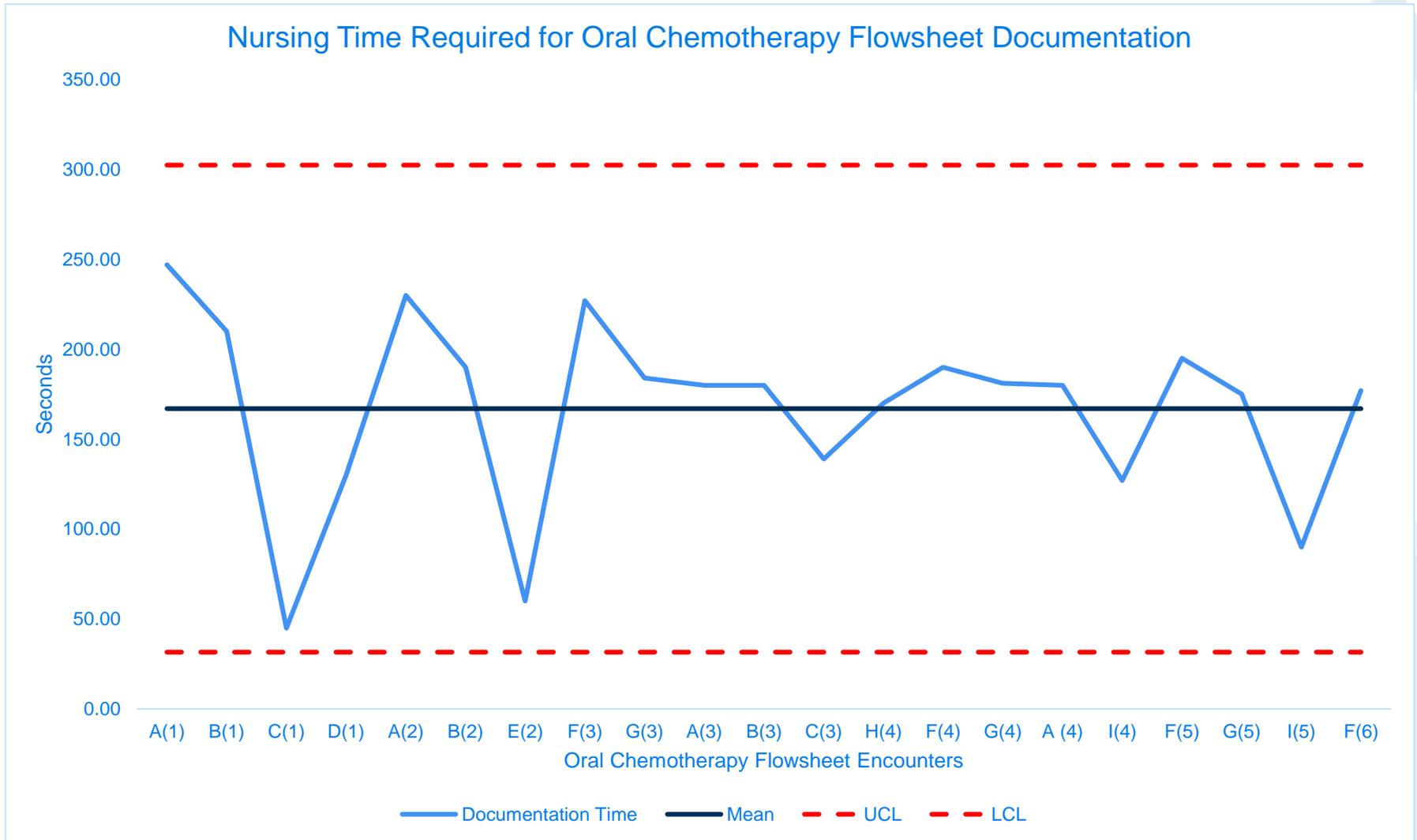


Time Required

Time Required for Flowsheet Capecitabine Documentation and Review



XmR Chart



Next Steps/Plan for Sustainability

- Continue to monitor and track nursing time
- Internal Audit Monthly by RN team members
- Add other oral chemotherapies and biotherapies
- Run report for oral chemotherapies and biotherapies prescribed in EMR. Review that the doses are on flow sheet and dose changes are documented

Conclusions

- The team was able to appreciate how difficult it was to follow oral chemotherapy dosing using the old process.
- Creating a new process and tool in the EMR offers opportunity to improve thoroughness of documentation of oral chemotherapy
- Process developed improved the accessibility of data and reduced the time required to review data.

Oral Capecitabine Documentation in the Electronic Medical Record Flow sheet

AIM: Increase EMR flow sheet documentation of Capecitabine dosage adjustments, dose intensity and toxicities to 90% for adult patients by March 31, 2014

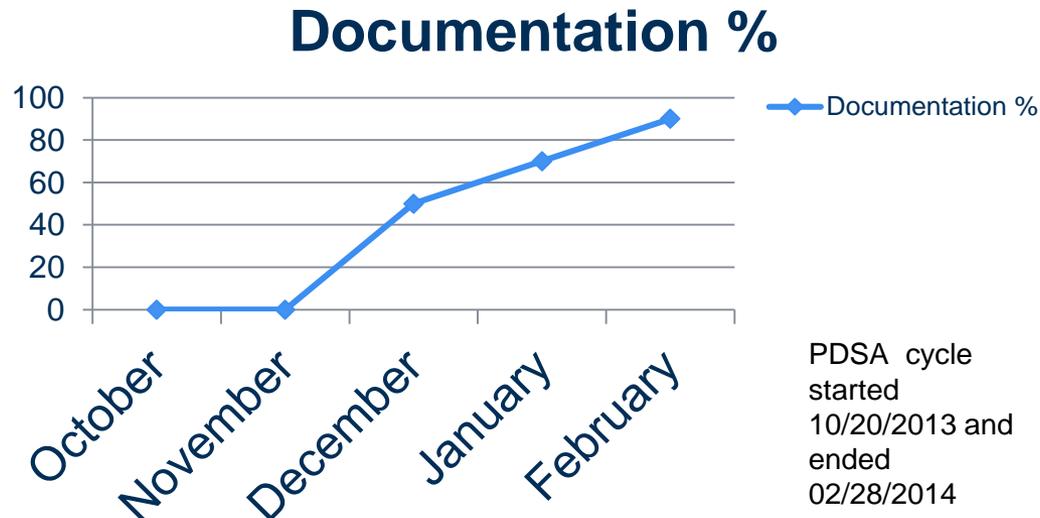
TEAM:
Yolanda G. Barco Oncology
Medical Oncology Department

SPONSOR:
Valerie Bond Waid,
MBA, BSN, FACHE
Director of YGBOI

INTERVENTION: Team formed and brainstormed to look at the current process and consider why the documentation wasn't complete. Fishbone diagram completed, initiated steps to implement change in the EMR and current process to devise a system that will offer documentation of oral chemotherapy in the flow sheet of the EMR.

Worked with software vendor and implemented change that offers ability to document oral chemotherapy on flow sheet. Staff reviewed how long it takes for current process and how long it takes with new process. Reviewed ability to find dosage, dose intensity and adjustments with toxicities. Training for nursing staff to enter data into EMR and training for physicians and ancillary staff to retrieve data is in the initial stages.

RESULTS: Time to research dose intensity and Percent of complete Documentation on Flow sheet in EMR October, 2013- February 2014



CONCLUSIONS: In process to meet aim. Improvement from 0% of documentation up to 90% on flow sheet. Improved from an average of 23 minutes to 90 seconds to review dosage, adjustments, dose intensity and toxicities.

NEXT STEPS: Monitor progress with internal audit. Add other oral chemotherapies in June 2014.

Run monthly reports to determine if oral chemotherapies are documented on flow sheet, Continue with team efforts until aim is achieved at 90% or above for other oral agents.