

Pharmacist Directed Chemotherapy Care Navigation

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Disclosures

- Dr. Pires has no affiliation(s) and financial interest(s) which should be disclosed
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Objectives

1. Describe the new roles for pharmacists and technicians that are pivotal to the success of the Pharmacist Directed Chemotherapy Care Navigation process.
2. Discuss the importance of having both responsibility and authority for a given set of practice parameters in a collaborative drug therapy management agreement.

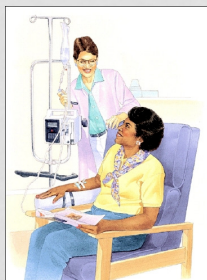
Introduction

- Oncology care is becoming more complex
 - New drugs
 - New regimens
 - High alert medications
 - Narrow therapeutic window
 - Range of toxicity
 - Confusing regimens
- A recent large study showed that the incidence of medication errors range from 7.1% to 18.8% per patient visit in adult and pediatric patients, respectively, and 13% resulted in injury

Walsh KE, et al. Medication Errors Among Adults and Children With Cancer in the Outpatient Setting. J Clin Onc. 2009; 27: 891-896.

The Trigger

- Four medication errors prompted a re-evaluation of our chemotherapy prescribing, compounding, and administration procedures
- Resulting from that analysis was a **novel, prospective pharmacy process that centralizes the authority and responsibility for the implementation of the oncologist's chemotherapy plan**



Program Goal

- The pharmacy team will be fully integral to the chemotherapy processes
- In collaboration with the oncologist and nurse, the **pharmacist will participate at every decision point in the patient's chemotherapy experience and will provide a consistent, seamless, robust and error free execution of the patient's chemotherapeutic plan**
- The pharmacy team consists of
 - Oncology Clinical Pharmacist Specialist
 - Oncology Order Preparing Pharmacist (OPP)
 - Chemotherapy Verifying Pharmacist (CVP)
 - Chemotherapy Compounding Pharmacist (CCP)
 - Oncology Support Pharmacy Technician (OSPT)
 - Oncology Compounding Technician (OCT)

Program Objectives

- Improve the **safety** of chemotherapy care
- Improve the **efficiency** of patient care
- Champion advances in the use of **technology**
 - chemotherapy computerized physician order entry system consolidate disparate record keeping
 - facilitate access to information critical to medical decision making promote standardization of practice using order sets
 - improve inter-provider communication
- Pharmacists will bring both oncology and pharmacy **expertise** to insure that every practice standard reflects the leading edge of oncology care
- **Extend the traditional pharmacist and technician roles** and create a collaborative drug therapy model of practice
- **Promote the hospital's mission of care, research and teaching at all levels**

History

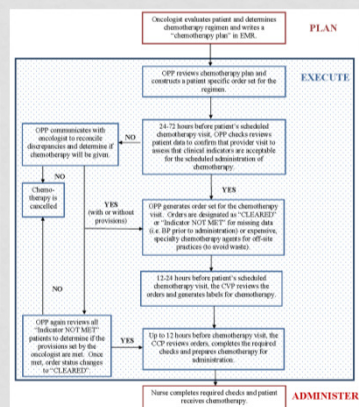
- 2001 – Nurse “hand writes” MD orders and administers chemotherapy
 - Transitioned to pharmacist entered orders
- 2004 – Board certified oncology pharmacist hired
 - organized order writing of chemotherapy and supportive therapies
 - standardized chemotherapy ordering using pre-formatted templates
 - became involved in the research protocols that were being initiated by the oncology staff.
- 2009 - Oncology, pharmacy, nursing and medical directors conducted a FMEA to determine the potential points of failure in our chemotherapy processes
 - Numerous problems identified

System Redesign

- The oncology physicians agreed to **document chemotherapy care plans in the EMR** in a standardized fashion
- The oncology nurse and CCP would **complete a clinical indicator checklist** prior to chemotherapy preparation and administration
- Patient scheduling was aligned with unit capacity
- Pharmacy would be integrated into unit governance
 - participate in the development of policies and procedures
- **All patient specific information**, including information from other institutions or laboratories, **would be captured in the EMR**
- Scheduled meetings with the hospital administration and physician, nursing and pharmacy staffs (“Safety and Serenity”) would help to create a **“shared mental model of care”**
 - identify obstacles faced by each discipline
 - provide realistic options for remediation of these problems
 - improve communication and promote a culture of respect

Oncology Work Flow Diagram

CCP	Chemotherapy Coordinating Pharmacist
CCP	Chemotherapy Coordinating Pharmacist
EMR	Electronic Medical Record
OPP	Oncology Order Processing Pharmacist



Operational Issues

Barriers	Remediation
• Pharmacy workload	• Justify positions
• Transition an “on demand” system to decrease waste	• Changes were made to workflow patterns for MD, RN and RPh
• Consensus needed for regimen standards for and best practices	• Weekly multidisciplinary review of every patient, to solidify and communicate the plan
• Clinical information in various places	• Developed electronic flow sheet, external source data entered
• Chemotherapy plan and ordering standardized	• Standardized order templates and CPOE initiated

Assessing the Impact of Change

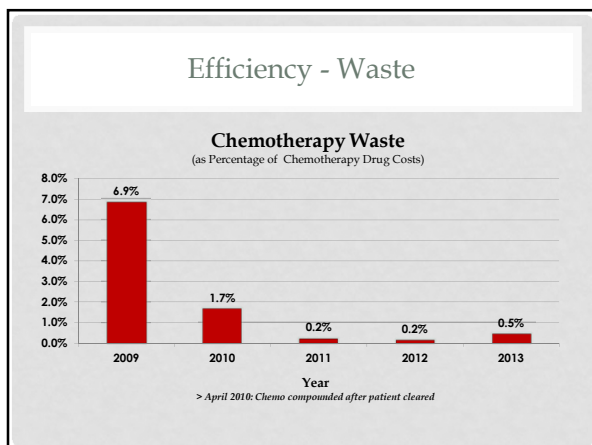




Safety - Medication Errors

Oncology Medication Errors

	Actual	# of Events	Events/Dose	Potential	Prescribing/Ordering	Administering
2009	14	26	0.03%	12	11	9
2010	15	33	0.04%	18	18	6
2011	12	33	0.04%	21	4	23
2012	23	45	0.05%	22	8	24
2013 (YTD)	4	16	0.03%	12	4	6



Efficiency - Pharmacy Workload

Pharmacy Workload

Year	2009	2010	2011	2012	2013 (6mo)
Total Chemotherapy Doses Administered	76,328	76,622	83,828	88,313	46,979
Research Patient Enrollments	259	435	360	188	90
Number of Open Research Drug Studies	35	44	41	45	43

- 340B drug discount program participation saves an average of \$3.7 million dollars in FY 13
 - WIH uses these savings provide services to the under insured in our community

- ### Leveraging Technology
- Chemotherapy Computerized Physician Order Entry (CCPOE)
 - Upgrades basic CPOE program infrastructure
 - 243 (to date) order sets and regimens for chemotherapy use in clinical care and research
 - Workflow tracking board
 - Electronic chemotherapy flow sheet
 - consolidate information from outside hospitals or laboratories into our EMR
 - required documentation in clinical notes, electronic medication administration record, etc.
 - Fully implemented bar-code medication administration
 - Utilization of "smart pump" technology

- ### Novel Pharmacist Role
- Responsibilities of the Order Preparing Pharmacist (OPP) expands the practice landscape in oncology
 - Mentored by board-certified oncology pharmacy specialist and oncology staff
 - calculate chemotherapy dose, choose diluent, volume rate and order of administration of chemotherapy regimen
 - provide electrolyte replacement
 - add or modify supportive drug therapies
 - provision of drug information
 - interpret medical information
 - using clinical indicators, evaluate patients' readiness for chemotherapy
 - determine the need for clinical holds and work with oncologist staff to resolve patient specific issues and/or modify plan

Novel Technician Role

- Technician role emerged as program expanded - Oncology Support Pharmacy Technician (OSPT)
- Experienced, PTCB certified pharmacy technician
 - gathers all medically relevant information
 - ensures that the electronic flow sheet is current
 - creates and updates a communication form for nursing and pharmacy that describes the patients' state of readiness for chemotherapy
 - provides "telephone triage" for the OPPs
 - refills the automated dispensing cabinet
 - maintains stock
 - ensures pharmacy regulatory compliance within these spaces.

Pharmacist Directed Chemotherapy Care Navigation - Summary

- This process is a pharmacy **team** effort
 - each step is critical to providing consistent, seamless, robust and error free execution of the patient's chemotherapy plan
 - provides a coordinated system of checks and balances
- The program has **both the responsibility and the authority**
 - insure that chemotherapy delivery to the patient will be specific to her goals
 - efficiently ordered
 - prepared under strict USP 797 standards
 - monitored to signal when or if the plan should be modified based on response or toxicity

Pharmacist Directed Chemotherapy Care Navigation - Summary

- The OPP, who bears the majority of the responsibility for ordering and monitoring of chemotherapy, enjoys a **collaborative drug therapy management** role with the oncology physician staff
- A pharmacy technician **accesses and coordinates information required for clinical decision making**, and allows the pharmacist to focus on the analysis of data rather than retrieval of data
- OPP and Informatics Pharmacists have championed and capitalized on our EMR resources to **create technologic tools** to support the safety and efficiency of our process

Pharmacist Directed Chemotherapy Care Navigation - Summary

- While labor intensive, this program has **saved money and generated revenue**
- **Physician acceptance** has been increasingly enthusiastic
 - Oncology physician practices are now affiliating with the institution so that their private practice patients can benefit from pharmacist directed care

In summary, this program has improved the safety and efficiency of chemotherapy care, proved to be financially beneficial and carved out unique roles for pharmacists and technicians.

