A Case Study in Collaboration: The Delaware Cancer Treatment Task Force

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Top 4 Things to Know for CE

1. Make sure your BADGE IS SCANNED each time you enter a session to record your attendance.
2. Carry your Evaluation Packet with you to EVERY session.
3. Pharmacists, Pharmacy Technicians and Nurses need to track their hours on the Statement of Continuing Education Form as they go (the 2-page triplicate form, so press firmly!).
4. FOR CE: At your last session, total the hours and sign both pages of your Statement of Continuing Education Form.
   - Keep the PINK copy for your records and place the YELLOW and WHITE copies in your CE Envelope.
   - Make sure an Evaluation Form is in your CE Envelope for each session you attended (extra forms are available at the registration desk if you forgot to pick one up).
   - Write your name and unique ID number (six digit number at the bottom of your name badge) in the designated area on the outside of the envelope, seal it, and place it in the drop box located near the registration area.

Jerry Ewancio declares no conflicts of interest or financial interest in any service or product mentioned in this program.

Clinical trials and off-label/investigational uses will not be discussed during this presentation.
The Sentinel Event

- Mr. E is a 75yo male with advanced colon cancer
- He lives with his wife Valerie who has no medical background
- He had a port placed and was due to receive FolFox therapy at 2400mg/m2/day x 46 hours

Prescribed 5FU Regimen

- 4656 mg over the 46 hours to initiate after 2 hours of treatments at the Cancer Center.
- Medication is delivered to the patient’s house along with an ambulatory pump.
- RN initiates the home care 5FU without difficulties or incident.
- RN leaves the home after instructing the patient that she will be back in 46 hours.

The Call

- Less than 3 1/2 hours after the RN left the patient’s house, the patient called the agency reporting that the infusion was finished.
- The RN immediately returned to the patient’s house to find an empty medication reservoir.
- She called the pharmacy and discovered the pump was programmed at 46 ml/hour instead of 46 hours.
The Hospitalization

- Patient was admitted for chest pain, dizziness, swelling, and mental status changes.
- He was treated with high dose uridine triacetate (5FU antidote @ 11 grams q6h x 20 doses) started within 18 hours of overdose.
- He remained in-patient for six days.
- Upon discharge he resumed 5FU therapy and completed his remaining 11 cycles without incident.

The Response

- Prescribing physician was understandably upset and sought an alternative system.
- HIS solution – each therapy day would be in a new cassette and the cassette would be changed at home by a chemo certified RN that HE approved.

The Fixers

- Rhonda Combs & Brenda Ewen = Team Leaders
- Pharmacists from 3 HIT providers
- Nurses from 8 home care agencies
- Practice administrator from 4 hospital cancer centers
- Hospital PharmDx (BCOP)
- Public Health Officers
The Delaware Cancer Treatment Task Force—
The First Meeting

- Root cause analysis
- Error = any preventable event that may cause or lead to inappropriate medication use or patient harm
- Precipitating factors leading to error:
  - Inattentional blindness
  - 56% of all errors attributed to IVs (34% are fatal)
- 5FU overdose account for 1,300 cases per year (0.5%) of 27,500 patients treated/year

Existing Paper Flow

- MD office
- Cancer Centers
- In patient pharmacies
- Home infusion pharmacies
- Home nursing agencies
The Process Evaluation

- How and what paperwork should flow?
- The next several months we determined what was and was not important for each team member.
- Each team member did not need all of the information.

Revised Paper Flow

- MD Office writes all orders on a single order form and e-signs
- Orders are sent to both inpatient and HIT pharmacies
- HIT generates orders and sends a completed copy w/ copy of the label to the nursing agency via fax.
- HIT sends a second set of orders + labels + med cassettes for the Cancer Center for initial hookup
Patient Hookup

- Medication along with a copy of the orders arrive at the cancer center the morning of the therapy
- Cancer Center RN verifies the orders, calculations and pump setting before initiating the cycle
- Cancer Center RN notes the time of cycle initialization and sends a disconnect order to the nursing agency so they can schedule a discontinuation
Patient Disconnect

- Patient is discharged to the home with a copy of their disconnect form in-hand.
- Home care RN comes to the house within 24 hours of initiation to follow-up with the patient.
- Home care RN returns the following day to discontinue cycle and de-access the patient’s port.
- Home care RN completes the disconnect form while at the patient’s house.
- Disconnect form is faxed to the Cancer Center and copy is added to the patient chart.

CIRCLE IS NOW COMPLETE.
Pre-DCI: The Process

• HIT had to send supplies to patient's home before start of care.
• Patient arrived at the Cancer Center and received pulse treatment.
• Cancer Center sent orders to the HIT during treatment at the cancer center.
• HIT provider dispatched driver tech to the patient home with medication.
• Home care RN arrived at patient home to initiate within 2 hours.
• Home care RN came back 46 hours later to disconnect.

Pre-DCI: Points of Dissatisfaction

• Patients did not like having to rush home after treatments at the cancer center.
• Home Care RNs did not like such a narrow window to start patients post Cancer Center visit.
• MDs did not like patient being delayed for any reason and did not like to write orders too far in advance of treatment days.
• HIT did not like having so many timed deliveries within a single day.
Leadership & Management Lessons Learned

- How do we bring this full circle?
- How did this experience benefit us?
- How was our business affected?
- Did we profit professionally or through increased efficiencies impacting the bottom line?

Results

- Partnership has solidified referral sources with >90% of eligible cancer patients referred a participating cancer initiative HIT provider
- Become a provider of choice? Name recognition?
- How does this relationship set the stage for Apple Drugs’ future?
- Bigger role in the macro level decision making of care in the region.

Elimination of Waste

- We collected “leftover” supplies and determined what was and was not needed to complete a 5FU cycle.
- We now send only what is needed.
- During the 5FU critical shortage we did not miss one patient cycle or waste one cassette of medication.
Pharmacy Profitability

- It’s all about operating profitability with ever shrinking reimbursement to keep the margins as healthy as possible.
- Fixed costs have plummeted.
- Waste has been eliminated.
- Deliveries per driver have increased, yet the number of delivery stops have decreased due to combined deliveries to the Cancer Centers.

Quote From Cindi Krempel

- Cindi is an Office Manager for a large E.N.T. Practice in Salisbury, Maryland who once stated at a meeting: “my job within this company is to retain, maintain and increase profitability”.
Nursing Agency Efficiencies

• By initiating hookups at the Cancer Center, the Home Care RNs do not have two hour limitations to resume therapy in the patient’s home.

• Disconnect Forms
  – Tell the RNs exactly what time the therapy should be discontinued
  – Tells the patient what time the RN will be there

  No backtracking or overlap!

Immediate Obstacles: Nurse Training

• Training Cancer Center RNs on new pumps/standard equipment across all sites.
  – Train the trainer
  – 2 pilot sites
  – Scaled to 6 sites in the DelMarVa peninsula.

Immediate Obstacles: Standardized Dosing for 5FU Infusions

• All 5FU has to be custom concentrated for each patient so a standard rate could be utilized.
  – FOLFOX <4400MG = 2mL/HR  RV = 94mL
  – FOLFOX >4401MG = 3mL/HR  RV = 140mL
  – 5FU X 4DAYS = 2mL/HR       RV = 194 mL
  – 5FU X 4 DAYS = 2mL/HR       RV = 242 mL
  – 5FU W/ RT = 0.5mL/HR        RV = 88 mL
Present Day

- All of the Cancer Centers in Delaware have adopted the new system.
- 5 Cancer Centers in Maryland and 2 Cancer Centers in Virginia have adopted the new guidelines.
- A total of 10 nursing agencies with 17 branches in MD, DE, and VA have embraced the new system.

Acknowledgments

- “Use of uridine triacetate for the management of fluorouracil overdose” American Journal Health-System Pharmacy, 68(19), 1806-1809.

References

1. Prusch, Suess, Paloetti, Olins & Watts, 2011 Integrating technology to improve medication administration. American Journal Health-System Pharmacy, 68(9), 835-842
Learning Assessment Questions & Answers

Please refer to the 2012 NHIA Annual Conference & Exposition Onsite Program Guide for a brief post-test.

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