ADMINISTRATIVE CHALLENGES IN PROVIDING CANCER CARE
Learning Objectives

• Identify three administrative challenges in the provision of oncology patient care
• Describe potential solutions to administrative challenges in the provision of oncology care
• Discuss potential pitfalls in the implementation of solutions
• Identify 3 ways in which pharmacy can help to overcome challenges in the provision of cancer care
Access to Care Where You Live

• Problems with disparities of care
  – Impoverished
  – Elderly
  – Geographically isolated

• Transportation for the Cancer Patient

• Approximately 39.6% of the U.S. population will be diagnosed with cancer at some point during their lifetime*

*From NIH NCI Division of Cancer Control & Population Sciences
Access to Care – Geography Example

16 CHS LCI locations

= LCI affiliate
The Concept of Cancer Care Where You Live...

- **Key Concepts:**
  1. Adherence to common pathways providing consistent care no matter where treated
  2. Availability of Clinical Trials to all sites
  3. Academic Hybrid Model of Care – Fusion of academic clinicians and practice oncologists with centralized Cancer Trials Office, centralized IRB and staff training
  4. Use of telemedicine to provide wide variety of services
Pharmacy Challenges

• Cost of clean room suites
• Taking space from others
• Prototype pharmacies
• Construction disruption
• We’ve existed just fine without pharmacy for the past ___ years. ‘Dr. Smith’
• Added time to get to patient
Pharmacy Challenges

- Virtual double check
- **Finding qualified personnel**
- Building relationships with nursing
- Standardization – standardization – standardization
- Building relationships within pharmacy when geographically isolated
- Centralized purchasing
Learning Check

• Significant administrative challenges to the provision of oncology care include all of the following EXCEPT:

1. Access to care
2. Finding qualified oncology professionals
3. Construction and space constraints
4. Patients choosing not to receive care
Finding qualified professionals

• There is NOT a shortage of pharmacists – supply presently equals demand\(^1\)

• By 2020, there will be an estimated 3,639 BCOPs and approximately 62% of them will have completed PGY-2 residency programs\(^2\)

• There is a significant projected shortage of medical oncologists. Between 2012 and 2025 demand for medical oncology services is expected to rise by 40%. However supply is expected to rise by only 25%\(^3\)

• Who will fill the gap?

\(^1\)Bureau of Labor Statistics May 2016
\(^2\)Ignoffo R, et al Journal of Oncology Practice 12 no.4 (April 2016) e359-e368
\(^3\)Yang W, et al Journal of Oncology Practice 10 no.1 (Jan 2014) 39-45
Case Study – LCI in 2014

- Initially 3 of 15 medical oncology/infusion sites had dedicated oncology pharmacy services
- 2 sites had in-patient pharmacists check outpatient chemo orders as part of their work
- Most sites were once independent MD office practices
- One 6 story building in downtown Charlotte with site specific clinics and 82 infusion chairs
- 2 pharmacists dedicated to clinical in-patient oncology practice as well as Outpatient Bone Marrow Transplant (BMT)
- A total of 13 pharmacists dedicated to oncology
- In September of 2014, LCI’s oncology pharmacy program was small and not well known.
Case Study – LCI in 2017

- As of 9-2017, LCI will have 48 dedicated oncology pharmacists (excluding 5 FTE pharmacists in IDS)
- Went from supporting 3 sites to supporting 16 sites
- Have 5 more sites in various stages of construction process
- Have added 35 FTE oncology pharmacist positions in past 2.5 years

HOW DID WE FIND 35 ONCOLOGY PHARMACISTS?
Strategies

From a study done by SilkRoad Technology entitled “Recruitment Marketing Effectiveness: Meaningful Metrics Straight From the Source”, 222,308 job postings, 9.3 million applications, 147,440 interviews and 94,155 hires were analyzed.

Statistically, what is the number one most effective source of recruitment?

Referrals from present employees

Try to get approval for a referral bonus. It works!
Strategies

• Attend every oncology pharmacy meeting in the continental USA every year – and have a booth whenever they are available for recruiting
• All employees who attend a meeting – talk about your program to anyone and everyone. Report to your manager how many people you spoke with at each meeting!
• Create handouts and advertise openings in corresponding publications
• Don’t forget regional meetings
• Where did we get booths?
Strategies

• Advertise in specific online websites (HOPA)
• Send out on list servs
• Send fliers to every PGY2 Oncology residency program in the nation
• Volunteer to give educational lectures
• Use sign on bonuses in situations like this one
• Beg other managers in the system to forward your flier and ask their staff to recruit
• “Headhunters”
• Grow your own!
Strategy - Grow Your Own?

• Start a PGY-2 Residency Program
• Develop a training program whereby you give staff pharmacists the opportunity to develop knowledge and skills in the oncology arena
• Need –
  - Staff commitment and involvement
  - Internal preceptors
  - Develop modules and learning objectives
  - Monitor achievement of competency
  - Willingness to invest time in your staff’s development – about 9 months
<table>
<thead>
<tr>
<th>Topic</th>
<th>Duration</th>
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<tbody>
<tr>
<td>Oncology Training Program Clinical Orientation</td>
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<tr>
<td>Breast Cancer</td>
<td>3 weeks</td>
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<tr>
<td>Colon and Rectal Cancer</td>
<td>2 weeks</td>
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<tr>
<td>GI Cancers (2 weeks) - pancreatic, esophageal</td>
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<tr>
<td>GU Cancers (2 weeks)</td>
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<tr>
<td>Gynecologic Cancers (2 weeks)</td>
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<tr>
<td>Head and Neck/ CNS (2 weeks)</td>
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<tr>
<td>HSCT/BMT (2 weeks)</td>
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<tr>
<td>Leukemia (3 weeks) - acute, chronic</td>
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<td>Lymphoma (3 weeks) - Hodgkin and non-Hodgkin</td>
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<tr>
<td>Lung Cancer (3 weeks) - small cell and non-small cell</td>
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<tr>
<td>Multiple Myeloma (2 weeks)</td>
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<tr>
<td>Prostate Cancer (2 weeks)</td>
<td></td>
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<tr>
<td>Sarcomas (2 weeks)</td>
<td></td>
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<tr>
<td>Skin Cancers and Melanoma (2 weeks)</td>
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</tr>
</tbody>
</table>
Oncology Training Program - Sharepoint
Steal Shamelessly!

• If you are in a system – ask all directors and managers to tell staff about the training program

• Target hospital pharmacists you know are good clinically as well as great team players

• Look for staff with hospital, home infusion, or oncology background
One challenge implementing oncology pharmacy services is finding qualified pharmacists. Which of the following are strategies that can be implemented for successful fulfillment of open positions?

1. Learn as you go strategy
2. Increase salary range well above national average
3. Develop a comprehensive internal training program
4. Implement referral bonuses
5. 3 and 4
6. All of the above
The Never-Ending Drive to Reduce Drug Costs

BUT HOW?

1. **Cost Savings #1**  Use 340b program if you qualify
2. **Cost Savings #2**  Centralize purchasing
   - check every item every time
   - verify contracts loaded are correct
3. **Cost Savings #3**  Use LEAN Principles
4. **Cost Savings #4**  Manage inventory relentlessly
Case Study on Inventory Management Using LEAN Principles- Problem Description

- In June of 2014 total inventory for LCI sites was $4,581,530 with a target of $4,238,381 resulting in a gap of $343,149.
Grasp the Situation

**Opportunity**

- Non-hospital based: $343,149
- Hospital based: $0

**Inventory gap**

- LCI SOUTH PARK: $221,991
- LCI UNIVERSITY: $0
- LCI PINEVILLE: $0
- LCI ROCKHILL: $0
- LCI MALLARD CREEK: $0
- LCI CORNELIUS: $0
- LCI MATTHEWS: $0
- LCI BALLANTyne: $0
- LCI MONROE: $0

**SouthPark Inventory**

- JEVTANA 60 MG: $24,837
- ARANESP 500MCG: $0
- ROMIPLOSTIM 500MCG: $0
- SANDOS LAR 20MG: $0
- HERCEPTIN 440MG: $0
- VELCADE 3.5MG: $0
- KADCYLA 100MG: $0
- PERTUZUMAB 420MG: $0
- ARANESP 300MCG: $0
- All other: $0
Improvement Investigation

**DIRECT CAUSES:**
1. Drug on hand that is not needed
2. Pars not recently updated in Omnicell

**MATERIAL**
- No ability to quickly purchase Jevtana
- No consistent pricing for Jevtana
- No Jevtana on hand for new patient
- No coverage of unplanned sick visit
- Not having Jevtana with long expiration dates and moving to alternate sites
- Drug on hand that is not needed
- Pars not recently updated in Omnicell

**SYSTEMS**
- No Jevtana on hand for new patient
- No coverage of unplanned sick visit

**SUPPLIERS**
- No ability to quickly purchase Jevtana
- No consistent pricing for Jevtana

**METHOD**

<table>
<thead>
<tr>
<th>ITEM</th>
<th>STD</th>
<th>ACT</th>
<th>J/MENT</th>
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<tbody>
<tr>
<td>No ability to quickly purchase Jevtana</td>
<td>0/20</td>
<td>0/20</td>
<td>O</td>
</tr>
<tr>
<td>No consistent pricing for Jevtana</td>
<td>0/20</td>
<td>0/20</td>
<td>O</td>
</tr>
<tr>
<td>Not having Jevtana with long expiration dates and moving to alternate sites</td>
<td>&lt;.2/20</td>
<td>0/20</td>
<td>△</td>
</tr>
<tr>
<td>Drug on hand that is not needed</td>
<td>0/20</td>
<td>1/20</td>
<td>X</td>
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</table>

In June 2014 LCI Southpark's excess inventory of Jevtana 60mg was $24,837 with a target of $0 resulting in a gap of $24,837.
## Improvement Investigation

### FIVE WHYS?

<table>
<thead>
<tr>
<th>Reason</th>
<th>Action</th>
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<tbody>
<tr>
<td>Drug on hand that is not needed</td>
<td>More drug is ordered than needed</td>
</tr>
<tr>
<td>Order not matched to demand</td>
<td>No assignment of responsibility for regular updating of pars</td>
</tr>
<tr>
<td>Assumption made that there would be a constant demand</td>
<td>Lack of understanding of relationship between par level to inventory level</td>
</tr>
<tr>
<td>No process was set up to review changes in demand</td>
<td>Lack of standard process for updating par levels</td>
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</table>

### ROOT CAUSE

<table>
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<th>Reason</th>
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<tbody>
<tr>
<td>No process was set up to review changes in demand</td>
<td>Lack of standard process for updating par levels</td>
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# Implementation Plan and Confirmation of Improvement

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<tr>
<th>Countermeasures</th>
<th>Responsible</th>
<th>Start Date</th>
<th>Due Date</th>
<th>Yokoten Opp.?</th>
<th>% Completed</th>
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<tbody>
<tr>
<td>a. Containment: a. Stop automated drug order process</td>
<td>Charlene Shropshire</td>
<td>9-Sep-14</td>
<td>31-Aug-14</td>
<td></td>
<td>25 50 75 100</td>
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<tr>
<td>b. Containment b. E-mail next three days of scheduled infusions to CHS-NorthEast</td>
<td>Neici Jones, back up nurse lead</td>
<td>10-Sep-14</td>
<td>1-Sep-14</td>
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<td>25 50 75 100</td>
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<td>c. Containment c. Hand enter order for LCI SouthPark</td>
<td>Suzanne Trawick, Lori Ashley</td>
<td>10-Sep-04</td>
<td>1-Sep-14</td>
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<td>25 50 75 100</td>
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<td>d. remove containment</td>
<td>Suzanne Trawick, Neici Jones</td>
<td>9-Dec-14</td>
<td>9-Dec-14</td>
<td>Y</td>
<td>25 50 75 100</td>
</tr>
<tr>
<td>e. Implement par levels with monthly checks</td>
<td>Suzanne Trawick, Neici Jones</td>
<td>13-Dec-14</td>
<td>9-Dec-14</td>
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## Defect/Problem/Issue

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<tr>
<td>Aug 26</td>
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<td>11-Nov</td>
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<td>11-Feb</td>
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<td>11-Mar</td>
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<td>26-May</td>
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## Inventory Gap

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<th>2015</th>
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<tbody>
<tr>
<td>11-Jul</td>
<td>24,837</td>
<td>24,837</td>
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<tr>
<td>11-Aug</td>
<td>24,837</td>
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<td>11-Sep</td>
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<td>11-Oct</td>
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<td>11-Nov</td>
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<td>11-May</td>
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<tr>
<td>26-May</td>
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## Monthly Prod/Amount

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<tr>
<td>11-Jul</td>
<td>60 mg</td>
<td>60 mg</td>
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<tr>
<td>11-Aug</td>
<td>60 mg</td>
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<tr>
<td>11-Sep</td>
<td>60 mg</td>
<td>60 mg</td>
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<td>11-Oct</td>
<td>60 mg</td>
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<td>11-Nov</td>
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<td>11-Dec</td>
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<td>26-May</td>
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Success Summary of A3 on Inventory

• Using A3 problem solving, we decreased the money being tied up in excess inventory at the metro LCI sites from $343,149 to $137,853

• LCI SouthPark has decreased their inventory from $364,084 in June of 2014 to $199,037 in February of 2015. This decrease has been sustained though June of 2015 with an inventory value of $198,954

• Now have a process to monitor and trend inventory at every site on a monthly basis
Standardization

- Cost Savings #5 - Standardization
- Standardization = Safety & Quality, Expense reduction
- LCI Pharmacy ONE Committee
- What did we standardize operationally?
  - Equipment in pharmacies
  - Cleaning supplies and PPE
  - How we mix chemotherapy
  - How we deliver continuous infusion products (ex: 5-FU)
  - IV pumps
  - Closed System Transfer Devices
Standardization

• What did we standardize **clinically**?
  - Emergency boxes
  - Extravasation Kits
  - Insulin protocol
  - IVIG products
  - Dose rounding protocol
  - Chemotherapy Pre-medications

• Done via use of Oncology Pharmacy P&T Subcommittee
Standardization

- LCI Pathways
Drug Cost Savings Initiatives

- **Cost Savings #6 – Patient Assistance Program**
- Most practices have one – but not necessarily systematic
- Example of use of outsource versus in-house
- Systematic approach nets huge benefits
- What do you need in-house?
  1. IT program that can incorporate all of your patient financial information
  2. IT support and implementation
  3. FTEs – some with experience
  4. Tracking tools and reports
  5. Policy on what to do with “leftover drugs”
Drug Cost Savings Initiatives

- Establishment of the Oncology P&T Subcommittee
  - important considerations, downtown and outreach sites
  - voting membership
  - targeting of problematic drug related issues – ex: dose rounding
  - communicating a win-win
Results
Drug Expense per Case

During a timeframe where drug costs increased an average of 10% per year
Learning Check

When implementing solutions to administrative challenges, which of the following is NOT an impediment?

1. The idea that standardization takes away personal choice
2. The mindset that you must keep plenty of inventory on hand to be sure you have any drug needed at any time
3. Employees who understand that standardization equals safe and consistent patient care
4. The cost of meeting USP 800 and USP 797 regulations
Other Cost Saving and Clinical Initiatives - Outpatient EPOCH

- **Cost Savings # 7 – Conversion of in-patient regimens to outpatient setting**
  - Move administration of EPOCH* regimen from in-patient to outpatient continuous infusions
  - Challenges to overcome:
    - Anticipation of potential toxicities
    - Patient Selection – likelihood of toxicities, patient understanding
    - Education of patient and caregiver
    - Preparation of chemotherapy and administration
    - Scheduling
    - Implementation of new processes – pilot patient, address any issues that arise (continuous improvement to process)

*EPOCH = etoposide, prednisone, vincristine (Oncovin), cyclophosphamide, hydroxydaunorubicin
Other Cost Saving and Clinical Initiatives - Working to top of licensure

• Cost Savings #8 – Conversion of work from Oncology Certified RN to Pharm Tech

• Pilot – Background on Multiple Myeloma Clinic

• Before and After
  1. Efficiency improved by 100%
  2. Interruptions to physicians reduced by 50%
  3. Patient Adherence improved
  4. Turn around time to get patient started on lenalidomide (Revlimid™) decreased by 1 full day
  5. Savings of approximately $35,000 per year per technician
Other Cost Saving and Clinical Initiatives - Chair Throughput

• **Cost Savings #9 – Evaluation of infusion rates**
• Pilot – Morehead Infusion Center Pre-medication Standardization
• Got P&T approved protocol
• Standardized infusion rates to lowest acceptable in literature
• Decreased average time in chair getting pre-meds by 30 minutes per patient
Learning Check

All of the following are cost savings ideas that can be evaluated in your oncology pharmacy practice except:

1. Using personnel to the top of their licensure
2. Conversion of in-patient regimens to the outpatient setting
3. Optimization of inventory management
4. Avoiding compliance with USP regulations
5. Standardization
QUESTIONS?