MEDICATION USE, SAFETY AND QUALITY
IN UNIVERSITY HEALTH SERVICES

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Presenters have NO actual or potential conflict of interest in relation to this educational activity or presentation.

All presenters are on faculty at the University of Illinois College of Pharmacy, Chicago, IL. Drs. Durley and Larson are also on staff at the University of Illinois Hospital & Health Sciences System.
LEARNING OBJECTIVES

After this session attendees should be able to:
1) Describe systematic processes to improve medication safety in university health services.
2) Describe pharmacy efforts to improve the quality of patient care in university health services.
3) Identify literature sources on quality improvement in university health services.

QUALITY STANDARDS IN UNIVERSITY HEALTH SERVICES

• Stakeholders:
  Students, Other Patients, Parents, Campus Administrators
• Quality standards options:
  1) Accreditation, if free-standing ambulatory-care clinics:
     - Accreditation Association for Ambulatory Health Care, or
     - The Joint Commission (TJC)
  2) ACHA Guidelines for a College Health Program
  3) Institutional policies and procedures
• Plethora of individual descriptions on ‘quality of care’ and services at university and college web sites.
• Limited peer-reviewed literature.
QUALITY IMPROVEMENT AND/OR MEDICATION SAFETY SYSTEMS IN UNIVERSITY HEALTH SERVICES

- **Book:** *The History and Practice of College Health*, Turner and Hurley (eds.). 2002.
- **QI articles pertaining to:**
  - Process description and/or change and assessment, in general
  - Patient and/or staff satisfaction surveys
  - Collaborative disease management (e.g., mental health)
- **Medication safety articles describing:**
  - Institutional systems for reporting adverse drug events
  - Nature and causes of errors in teaching hospitals

SELECTED LITERATURE, SINCE YEAR 2000

- **Bohmer RM, Bloom JD, Mort EA, Demehin AA, Meyer GS. Restructuring within an academic health center to support quality and safety: the development of the Center for Quality and Safety at the Massachusetts General Hospital. Acad Med. 2009 Dec;84(12):1663-71.**
PEER-REVIEWED LITERATURE, CONTINUED


MEDICATION SAFETY – RECOGNIZING AND PREVENTING ERRORS

Connie Larson, PharmD
Medication Safety Officer
OVERVIEW

- UI Health background
- Adverse Drug Events (ADEs)
- How and why medications errors occur
- Patient Occurrence reporting process
- UI Health medication safety program structure
- Medication error review and follow-up
- Medication safety improvement strategies
- Other reporting programs

UNIVERSITY OF ILLINOIS HOSPITAL & HEALTH SCIENCES SYSTEM

- 495 bed tertiary care, teaching hospital
- 350 physicians, 20 specialties and 60 sub-specialties
- Areas of focus include liver and kidney transplant, stroke and neurovascular, sickle cell anemia, pulmonary hypertension, cornea and retina, asthma, and diabetes
- Named among top “Most Wired Hospitals” by Hospitals & Health Networks magazine
UNIVERSITY OF ILLINOIS HOSPITAL & HEALTH SCIENCES SYSTEM

- Six health sciences colleges on campus
  - Applied Health Sciences
  - Dentistry
  - Medicine
  - Nursing
  - Pharmacy
  - Public Health
- Education programs for medical, nursing and pharmacy students
- Training/residency programs for physicians and pharmacists

UI HEALTH BY THE NUMBERS

FY 11
- 17,988 discharges
- 114,596 patient days
- 6.37 days ALOS
- 314 ADC
- 437,949 clinic visits
- 42,190 ED visits
- $13.3 million net income
ADVERSE DRUG EVENT (ADE)

A patient injury resulting from a medication, either because of a pharmacological reaction to a normal dose (Adverse Drug Reaction) or because of a preventable adverse reaction to a drug resulting from an error.

STATISTICS

About 7,000 people are estimated to die each year from medication errors
- 16 percent more deaths than the number attributable to work-related injuries (6,000 deaths)

Based on the IOM’s lower estimate of 44,000 deaths annually, medical errors rank as the eighth leading cause of death in the United States.
INSTITUTE OF MEDICINE REPORT

Four-tiered approach to reducing medical errors

• Establish national focus on patient safety
• Identify and learn from medical errors through mandatory and voluntary reporting systems
• Raise standards and expectations for improvement through oversight, group purchasers, professional groups
• Implement safe practices at the delivery level

IATROGENIC INJURY / HARM

An injury or harm to a patient attributed to the process of care rather than underlying physiological conditions
PATIENT HARM

WHAT WE KNOW ABOUT ERROR

- To err is human.........
- Errors increase the probability of incidents and accidents
- Error management strategies can reduce the severity of errors
HUMAN LIMITATIONS

- Limited memory capacity
- Limited processing capacity
  - multi-tasking capability
- Limits imposed by fatigue and other physiological factors
- Poor group dynamics

HUMAN FACTORS APPROACH: SYSTEM VS. PEOPLE ERRORS

- Less focus on the individual who makes an error and more on the organizational factors that provide the conditions in which errors occur
- Errors are reviewed to identifies improvements that can be made to the system to eliminate errors or reduce the potential for harm if the same error occurred.
The Swiss Cheese Model of System Accidents

SYSTEMS

Medication System – Any patient care activities involving the use of medications, including: ordering, verification, preparation and dispensing, administration and monitoring.
REPORTABLE OCCURRENCES

- **Adverse Drug Reactions** – negative patient outcomes as a result of medication therapy using appropriate doses for prophylaxis, diagnosis or therapy

- **Medication Errors** – Any preventable event that may cause inappropriate medication use or jeopardize patient safety. Including:
  - Wrong drug prescribed
  - Wrong dose prescribed or given to patient
  - Wrong interval

MEDICAL ERROR REPORTING

- **On-line reporting** – intranet access
  - Sends emails to Medication Safety Officer (MSO) and other key individuals

- **Phone hot-line** – generally used for timely notification in critical situations
OCCURRENCE REPORTING

From the UI intranet, employees have access to report errors and ADRs.

OCCURRENCE REPORTING

• Educational mission for our training programs
  • Several medical services require their residents to report errors or unsafe conditions (near-misses) – e.g. anesthesiology, internal medicine and pediatric medical residents
  • Pharmacy students report errors and ADRs during their clinical rotations in the hospital and clinics
• Reporting allows for the reporter and others to receive feedback on why the error occurred
• Every July new medical residents start and then change services on a monthly basis
MEDICATION ERROR DATA

- Approximately 700 reports are received each year which is more than doubled from 4 years ago
- Report notices automatically emailed to key individuals:
  - Patient care director for the unit patient located
  - Safety/Risk Management office
  - Medication Safety Officer

MEDICATION SYSTEM REVIEW COMMITTEE (MSRC)

- Group is a subcommittee of the Pharmacy and Therapeutics Committee (P&T) and is composed of healthcare professionals including: pharmacists, nurses, physicians, risk management and Information Technology staff.
  - Chair – Medication Safety Officer
- The charge is to safeguard the integrity of the medication system and reduce risk for adverse patient outcomes.
**MSO / MSRC ACTIVITIES**

- Review report narratives, review clinical information
- Interview staff
- Review system databases/ reports
- Formulate root cause for error when possible.
- Formulate potential interventions
- Review/discuss at MSRC
- Work with others (e.g. nursing staff development; medical resident program directors; pharmacy managers Information Services) to implement actions/strategies

**CLASSES OF DRUGS COMMONLY INVOLVED IN MEDICATION ERRORS**

- Antibiotics 19-30%
- Analgesics 7-30%
- Cardiovascular 8-18%
- Concentrated electrolytes 1-10%
- Antineoplastic drugs 7-8%
- Sedatives 4-8%
- Anticoagulants 1.3-3%
COMMON MEDICATION ERRORS

- Wrong Drug
- Wrong Dose
- Wrong Patient
- Wrong Time / schedule
- Wrong Route of administration
- Ambiguous / illegible prescription
- Inadequate Monitoring / lack of follow-up

MOST COMMON PROCESSES ASSOCIATED WITH MED ERRORS

- Physician ordering 39-49%
- Nursing administration 26-38%
- Transcription error 11-12%
- Pharmacy dispensing error 11-14%

ORDERING MEDICATIONS
POTENTIAL PROBLEMS

6U Regular Insulin Now

• Abbreviations – qd for daily (once per day)– *misread* as qid (four times per day)
• MS/MSO4 and MgSO4 – morphine or magnesium sulfate? *Spell out!!*

Source: Duszka SR, Zgarrick DP; Pharmacy Management: Essentials for All Practice Settings, 2nd Edition; http://www.accesspharmacy.com
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DISPENSING/ADMINISTRATION
POTENTIAL PROBLEMS

• Similar labeling/packaging, look-alike/sound-alike names require careful reading of the label
  ➢ benazepril / benadryl
  ➢ cerebyx / celeXA
  ➢ cetirizine / sertraline
  ➢ DAUNOrubicin / DOXOrubicin
  ➢ hydrALAZINE / hydrOXYzine
HEPARIN OVERDOSE HEADLINES

• 2006 Indianapolis, Indiana, Heparin overdoses administered to six premature babies of which three infants died.
• 2007 Los Angeles the twins of actor Dennis Quaid were administered quantities of Heparin that were 1,000 times higher than the dose authorized by doctors. Fortunately the twins survived.

Article Source: http://EzineArticles.com/4069951

HEPARIN – SIMILAR PACKAGING

• 1,000-fold difference in dose
CONFIRMATION BIAS

People see what they are looking for, and once they think they have found it, they stop looking any further.

• Choose a medication based on a location on a shelf, bin etc.
• Choose a medication container based on a mental picture of the item
  • The vial with the green/white/blue etc. top

MSRC PROACTIVE REVIEW

Indiana incident (2006) with heparin inj in their NNICU resulted in 6 babies receiving 10,000 units of heparin; 3 died.

• Reviewed our systems to assess if any patient care area that had heparin stocked needed it and if so, did they have the appropriate concentration and amount.
• Discovered 1 mL vials of heparin 20,000 units/mL kept in the OR pharmacy - eliminated this product
ROOT CAUSE ANALYSIS

A process for identifying the basic or causal factor(s) that underlie variation in performance, including the occurrence or possible occurrence.

ROOT CAUSES OF MEDICATION ERRORS

- Orientation / Training (60%)
- Communication (56%)
- Availability of information (26%)
- Standardization - lack of (22%)
- Storage / access (21%)

Joint Commission data 1995-2002
ROOT CAUSES OF MEDICATION ERRORS

- Competency / credentialing (21%)
- Supervision (19%)
- Staffing levels (19%)
- Labeling (18%)
- Distraction (13%)

MANAGING ERROR

- Identify system weak points before adverse events occur
- Report No Harm and Near Miss Events
- Encourage reporting
- Look for root causes
- Avoid blame and train
- Fix the things that set up humans for failure
- Do the right thing for the patient
PROCESS IMPROVEMENTS

• Identify system issues
• Develop an action plan to prevent or minimize harm
• Assign responsibility for action plan development
• Implement changes
• Monitor and adjust

MEDICATION MANAGEMENT SYSTEM GOALS

Support patient safety and improve the quality of care, treatment, and services by doing the following:

• Reducing practice variation, errors, and misuse
• Monitoring medication management processes in regard to efficiency, quality and safety
MEDICATION MANAGEMENT SYSTEM GOALS

• Standardizing equipment and processes across the organization (e.g. commercially available products, standard concentrations and unit-dose products)
• Using evidence-based good practices to develop medication management processes – double-checks for high-risk processes (e.g. chemotherapy)

STRATEGIES FOR PHARMACISTS

Critical prescription review
• Is this order appropriate for this patient
• Carefully review and clarify allergies, interactions and rule information during order processing

Question the prescriber
• Are you satisfied with answers to your questions
• If no, continue the quest

Final Product Check
• A thorough, consistent, uninterrupted process is key to identifying problems/errors
ACCOUNTABILITY

• Follow policies / rules
• Issues or concerns with practice/policies – bring to administrative attention – do not just ignore – help management help YOU
• Volunteer to be part of the review process for policy revisions
• Expect action – policy is revised or an understanding that certain procedures are necessary (e.g. patient safety)

TECHNOLOGY SAFETY STRATEGY EXAMPLES

• Barcode technology
• Computerized Prescriber Order Entry (CPOE) – inpatient medication orders
• E-prescribing - outpatient prescriptions
• Clinical decision support
• Prepackaging/packaging equipment
PATIENT COUNSELING AND EDUCATION

• Pharmacist-Patient interface plays a key role in identifying medication errors
  • A well educated patient may be able to identify errors

• Direct patient education:
  • Review drug information leaflet with the patient
  • During review can assess ability of patient to understand the information

PATIENT COUNSELING AND EDUCATION

• Health care literacy- does the patient understand the information from the pharmacist
  • 40% of patients with a chronic illness are functionally illiterate
  • ~25% of adult Americans read at or below the 5th grade level
  • Language barriers
PATIENT/CONSUMER EXPECTATIONS

- Ask questions if you have concerns – bring a relative or friend with you to the doctor to help you ask questions and understand the answers
- Tell the doctor and pharmacist of any drug allergies you have
- Keep and bring a list of ALL medications you take, including over-the-counter medications (e.g. Tylenol)
- Read your prescription labels and the information accompanying the medicine

FDA MEDWATCH

- Voluntary reporting program
  - Submit paper form printed from website
- FDA-regulated drugs
- Biologics (including human cells, tissues, and cellular and tissue-based products)
- Medical devices (including in vitro diagnostics)
- Special nutritional products and cosmetics
VACCINE ADVERSE EVENT REPORTING SYSTEM (VAERS)

The Vaccine Adverse Event Reporting System (VAERS) is a cooperative program for vaccine safety of the Centers for Disease Control and Prevention (CDC) and the Food and Drug Administration (FDA).

QUALITY IMPROVEMENT IN AMBULATORY-CARE UNIVERSITY HEALTH SERVICES

Sandra F. Durley, PharmD
Associate Director,
Ambulatory Pharmacy
OUTLINE

• Overview of Pharmacy Department

• Services Provided
  • General
  • Student Health

• Quality Improvement
  • General
  • Pharmacy QI Plan

OVERVIEW OF PHARMACY DEPARTMENT
OUR PHARMACIES

- **Hospital**
  - Central pharmacy (24/7)
  - 4 satellites
    - 5th floor (pediatrics/ED)
    - 7th floor (adult)
    - 6th floor (critical care)
    - OR
- **Outpatient**
  - PCC (Pharmaceutical Care Center)/Wood Street
  - EEI (Eye and Ear Infirmary)/Taylor Street*
  - Oncology
  - Dermatology
  - Mile Square – off-site
  - UVP (University Village Pharmacy)*
  - OCC (Outpatient Care Center)

*Student Health Pharmacies

CLINICAL PHARMACISTS

**PRACTICE LOCATIONS**

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Ambulatory Care Clinics</th>
</tr>
</thead>
<tbody>
<tr>
<td>- <strong>Adult ICUs</strong>: NSICU, MSICU,</td>
<td>- Dialysis</td>
</tr>
<tr>
<td>Transplant, ED</td>
<td>- Renal Hypertension</td>
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<tr>
<td>- <strong>Medicine</strong>: General, Liver,</td>
<td>- Family Medicine</td>
</tr>
<tr>
<td>Cardiology, Neurosurgery</td>
<td>- <strong>Medicine Sub-specialties</strong>: Heart Center,</td>
</tr>
<tr>
<td>Stepdown</td>
<td>Rheumatology, Liver, Pulmonary, HIV,</td>
</tr>
<tr>
<td>- <strong>Pediatrics</strong>: General, PICU,</td>
<td>Neurology, Diabetes</td>
</tr>
<tr>
<td>NNICU, ICN</td>
<td>- <strong>Oncology</strong></td>
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<tr>
<td>- <strong>ID Transplant</strong></td>
<td>- <strong>Pediatrics</strong></td>
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<tr>
<td>- <strong>Anesthesiology/Pain</strong></td>
<td>- <strong>Women’s Health</strong></td>
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<tr>
<td>- <strong>Oncology</strong>: Medical, Stem Cell Transplant</td>
<td>- <strong>Transplant</strong></td>
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<td>- <strong>Indigent Care</strong></td>
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<td></td>
<td>- <strong>Psychiatry</strong></td>
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<tr>
<td></td>
<td>- <strong>Pharmacy Managed</strong>: Anti-thrombosis,</td>
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<tr>
<td></td>
<td>Medication Therapy Management, Smoking</td>
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<td></td>
<td>Cessation</td>
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</tbody>
</table>
PATIENT CENTERED SERVICES OFFERED
AT UI HEALTH PHARMACIES

**Medication Access**
- (MAP, Medicare Part D, Financial Case Management)

**MTM**
- Patient Counseling

**Discharge Rx Service**
- (PCC)

**Coordinated Refill**
- (PCC, OCC, EEI)

**Infusion Services**
- (EEI, ONCO)

**Compounding**
- (PCC, EEI, DERM, OCC)

**Immunizations**
- (UVP, PCC, OCC, EEI)

**Psych Medication Coordination**
- (PCC)

**Specialty Pharmacy**
- (PCC, ONC, DERM, EEI)

**Transplant**
- (PCC, EEI)

**Medication Access**
- (MAP, Medicare Part D, Financial Case Management)

**Mall Grocer**
- (PCC, EEI, DERM)

**IDOC/Teledicine**
- (PCC)

**Coordinated Refill**
- (PCC, OCC, EEI)

CLINICAL NETWORK CREATED BY
THE RELATIONSHIP BETWEEN
PHARMACY SERVICES AT UI HEALTH

**Access**
- EMR
  - Physicians
  - Nurse
  - Practitioners

**Inpatient Based Services**

**Pharmacy Based Services**

**Clinic Based Services**

**Outside Pharmacies and Practitioners**
PHARMACY PHILOSOPHY ON COORDINATED CARE

Goals of coordinated care

- Pharmacists must be involved in all aspects of medication management

- Goals:
  - Identify and minimize medication safety issues
  - Increase medication adherence and improve health outcomes
  - Optimize medication-related expenses & reduce overall healthcare costs
OVERVIEW OF STUDENT HEALTH SERVICES

UIC STUDENTS!
We have
2 PHARMACIES FOR YOU

SOUTH CAMPUS LOCATION
University Village Pharmacy
723 W. Maxwell St., 1st Floor
535-260-2345
Right across the hall from the University Village Family Medicine Center

WEST CAMPUS LOCATION
Taylor Street, EDI Pharmacy
1815 S. Taylor, 1st Floor
312-595-6540
Steps away from the OCC
tion
of the Family Medicine Center

- Students receive a 10% discount on all
  over-the-counter items
- We absolutely protect your confidentiality
- Birth control at special student prices
- We take Campus Care and most
  insurance plans, students covered under
  the Campus Care plan save out-of-pocket
  expenses when they use our pharmacies
to fill prescriptions.

We're stocked with:
Contact solutions  Personal care products
First aid needs   Vitamins...and more!
OVERVIEW OF PHARMACY SERVICES

• UI Health Pharmacies provide traditional pharmacy services to students, patients and employees of the University of Illinois

• Clinical pharmacy services are partially funded by revenue generated from prescriptions
CLINICAL PHARMACY SERVICES

Referrals:
• Gardasil® vaccine consult (40.7%)
  • Product provided via patient assistance program (valued at > $20K)
  • 1 hour visit for each of 3 doses

• Patient assistance program (2.4%)
  • Guidance for various programs
  • Selection, enrollment, and follow up for patients who have exhausted CampusCare prescription benefits or do not have prescription coverage

CLINICAL PHARMACY SERVICES

Referrals:
• Travel Immunizations (25.8%)
  • Determination of patient’s immunization history
  • Selection of appropriate travel vaccines for patient’s destination
  • Foreign travel counseling
    • Mosquito avoidance, jet lag, safety, local water issues
CLINICAL PHARMACY SERVICES

Referrals:
- Patient disease state management
  - Anticoagulation (21.1%)
    - Adjust warfarin dose for patient every week to every month through phone follow up after patient's INR receive in clinic
  - Smoking cessation (1%)
    - Counseling on trigger avoidance, medication selection
    - Follow-up over the phone and in clinic

- Asthma (2.4%)
  - Inhaler education, medication selection, asthma action plans
- Accutane (1.4%)
  - Expensive therapy – likely to exhaust pharmacy benefits
  - Require assistance program or management of other meds
- Diabetes (1.4%)
  - Meter education, medication selection, insulin adjustments, diet and exercise education
  - Follow-up over the phone and in clinic
CLINICAL PHARMACY SERVICES

Provided upon request (non-scheduled):
• Contraception
  • Medication selection
  • Counseling patients who are starting contraceptives on medication use
  • Counseling patients who are having problems
    • In clinic and over the phone
    • May involve medication change

CLINICAL PHARMACY SERVICES

Provided upon request (non-scheduled):
• Patient medication education
  • Phone messages regarding medications automatically triaged to pharmacists
  • In-clinic education on new medications and/or devices
CLINICAL PHARMACY SERVICES

Provided upon request:
• Medication experts
  • Serve as information resource for Attending Physicians and Residents regarding medication selection, medication use, potential side effects, drug interactions, adverse reactions, etc.
• Formulary selection
  • Serve as advisor/liaison for physicians regarding patient’s formulary - to find medications with the lowest cost for the patients

STUDENT HEALTH RE-CAP

• The UI Health Pharmacy Department collaborates with physicians and staff in Family Medicine Clinic to provide a progressive “patient-centered medical home” for UIC students
• The UIC pharmacies are committed to providing services to our students and actively markets its services to the students
WHY IS QUALITY IMPORTANT IN THE HEALTHCARE ENVIRONMENT?

- Healthcare payers are looking for providers who can deliver the best quality healthcare at the most reasonable price
- Competition is keen and there is a need for increased efficiency and quality

WHY IS QUALITY IMPORTANT IN THE HEALTHCARE ENVIRONMENT?

- Government/regulatory demands
- TJC, NQF, CMS
- During the past decade, the Joint Commission has integrated the application of CQI principles into the core of its accreditation process
- All healthcare workers are expected to know how to use CQI in their daily work
HEALTHCARE IN AMERICA

IOM – Quality of Healthcare in America

• Committee formed in 1998

• Provides unbiased, evidence based advice concerning healthcare

• Goal: to decrease errors and improve quality in healthcare

“CROSSING THE QUALITY CHASM”

• Healthcare harms too frequently and routinely fails to deliver its potential benefits

• Quality problems are everywhere affecting many patients

• “Between the healthcare that we have and the care that we could have, there lies not just a gap, but a chasm”
INSTITUTE OF MEDICINE’S 6 DIMENSIONS OF QUALITY

- Safe
- Timely
- Effective
- Efficient
- Equitable
- Patient/Family-Centered

UI HEALTH AMBULATORY PHARMACY QUALITY PLAN
THE CQI CHALLENGE

Three key questions:
• Are we doing the right things?
• Are we doing things right?
• Are we meeting our customers needs?

CRITICAL PROCESS INVENTORY
ARE WE DOING THE RIGHT THINGS?

The department of Ambulatory Care Pharmacy Services strives to provide safe, rational, cost effective, **customer focused** pharmaceutical care:

### Step of Medication Use Process

<table>
<thead>
<tr>
<th>Pharmacy Based Services</th>
<th>Clinic Based Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prescribing</td>
<td>X</td>
</tr>
<tr>
<td>Dispensing</td>
<td>X</td>
</tr>
<tr>
<td>Administration (Patient Counseling)</td>
<td>X</td>
</tr>
<tr>
<td>Monitoring (adverse effects, effectiveness)</td>
<td>X</td>
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</tbody>
</table>

ARE WE DOING THINGS RIGHT?

### Goals

<table>
<thead>
<tr>
<th>Goals</th>
<th>Pharmacy Based</th>
<th>Clinic Based</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safe</td>
<td>• Medication errors (actual &amp; potential)</td>
<td>• Adverse Drug Events</td>
</tr>
<tr>
<td>Rational</td>
<td>• Product selection to improve compliance (tabs/dose, tabs/day) palatability (liquid preps)</td>
<td>• Drug Utilization Evaluations PPI dosing (qd vs bid)</td>
</tr>
<tr>
<td>Cost Effective</td>
<td>• Product Selection to assure reimbursement (formulary/preferred agents) (generics vs. brand names)</td>
<td>• Diabetes Pharmacotherapy (combo oral therapy vs. insulin therapy)</td>
</tr>
<tr>
<td>Customer Focused</td>
<td>• Timely</td>
<td>• Patient goals considered in therapy selection</td>
</tr>
<tr>
<td></td>
<td>• Delivered with respect</td>
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</tbody>
</table>
HOW DO WE KNOW THAT WE ARE MEETING CUSTOMER NEEDS?

<table>
<thead>
<tr>
<th>Ambulatory Care Pharmacy Quality Indicators</th>
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<tbody>
<tr>
<td>Prescribing</td>
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<tr>
<td>Safe</td>
</tr>
<tr>
<td>Rational</td>
</tr>
<tr>
<td>Cost Effective</td>
</tr>
<tr>
<td>Customer Focused</td>
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<tr>
<td>Patient Allergies</td>
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<td>Clinical Interventions</td>
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UI HEALTH ORGANIZATIONAL GOALS

Employer of Choice
To provide a workplace where staff are valued, learning is encouraged, and practices are such that we are considered an employer of choice.

Provider of Choice
To provide service to our patients, clients, and customers, both internal and external, in a manner that exceeds their expectations and makes us a service provider of choice.

Productivity & Service Efficiency
To continuously evaluate and improve the supporting structures and processes of patient care delivery in order to assure efficient and effective performance.

Business Growth & Development
To conscientiously and aggressively investigate, pursue and implement favorable business opportunities.

Organizational Compliance
To assure that all operations meet legal, regulatory and accreditation requirements at all times.
### CUSTOMER SERVICE METRICS

<table>
<thead>
<tr>
<th>Metric</th>
<th>Target</th>
<th>Current Period</th>
<th>Rank Current Period</th>
<th>Rank Last 12 Months</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient Satisfaction</td>
<td>90%</td>
<td>100%</td>
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<td></td>
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</tr>
<tr>
<td>Length of time to wait for a prescription</td>
<td>97%</td>
<td>97%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pharmacist explains how to take medications</td>
<td>98%</td>
<td>98%</td>
<td></td>
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</tr>
</tbody>
</table>

### CLINICAL EFFECTIVENESS METRICS

<table>
<thead>
<tr>
<th>Metric</th>
<th>Target</th>
<th>Current Period</th>
<th>Rank Current Period</th>
<th>Rank Last 12 Months</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pneumococcal Vaccine for Dialysis</td>
<td>90%</td>
<td>84%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>International Normalized Ratio (INR)</td>
<td>50%</td>
<td>65%</td>
<td></td>
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</tr>
<tr>
<td>Smoking Cessation Program Abstinence of &gt;5%</td>
<td>7%</td>
<td>6%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diabetes Management HbA1c &lt; 7%</td>
<td>58%</td>
<td>PEND</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asthma (Pediatrics)</td>
<td>95%</td>
<td>50%/81%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asthma (Adults)</td>
<td>95%</td>
<td>65%/67%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MTM - Blood Pressure</td>
<td>41%</td>
<td>N/A</td>
<td></td>
<td></td>
<td>data unavailable</td>
</tr>
<tr>
<td>MTM Medication Adherence</td>
<td>80%</td>
<td>N/A</td>
<td></td>
<td></td>
<td>data unavailable</td>
</tr>
<tr>
<td>CKD-Mineral and Bone Disorder</td>
<td>≥ 75%</td>
<td>66.80%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### SAFETY METRICS

<table>
<thead>
<tr>
<th>Metric</th>
<th>Target</th>
<th>Current Period</th>
<th>Rank Current Period</th>
<th>Rank Last 12 Months</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allergy Audits</td>
<td>100%</td>
<td>100%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NPSG (Two Patient ID)</td>
<td>100%</td>
<td>98%</td>
<td></td>
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</tr>
</tbody>
</table>

### EFFICIENCY METRICS

<table>
<thead>
<tr>
<th>Metric</th>
<th>Target</th>
<th>Current Period</th>
<th>Rank Current Period</th>
<th>Rank Last 12 Months</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pharmacy Wait Times</td>
<td>20 mins</td>
<td>5 mins</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ESI</td>
<td>5 mins</td>
<td>5 mins</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MS</td>
<td>9 mins</td>
<td>7 mins</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>OCC</td>
<td>11 mins</td>
<td>14 mins</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UVP</td>
<td>9 mins</td>
<td>6 mins</td>
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</tbody>
</table>

### FINANCIAL METRICS

<table>
<thead>
<tr>
<th>Metric</th>
<th>Target</th>
<th>Current Period</th>
<th>Rank Current Period</th>
<th>Rank Last 12 Months</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discharge Prescription Service</td>
<td>10%</td>
<td>12%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increase Rx Claims (UVP Capture Rate)</td>
<td>10%</td>
<td>12%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medication Assistance Program</td>
<td>10%</td>
<td>10%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specialty Pharmacy (Prescription Capture Rate)</td>
<td>10%</td>
<td>12%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### KEY

- **Green** = Good = 100% of Target (or greater) achieved
- **Yellow** = Caution = 2 10% variance from target
- **Red** = Actionable = > 10% variance from target

Data Not Available PEND

* Unless otherwise noted, measures are reported quarterly.
IMPROVING PATIENT SAFETY

Percent of patients with allergy information entered into pharmacy computer system

IMPROVING PATIENT SATISFACTION

The pharmacy staff is always willing to help
The length of time to wait for a prescription is reasonable
Pharmacist explains how to take medications
Overall satisfaction with UIC Pharmacy

Patient Satisfaction Survey Results

Questions
IMPROVING EFFICIENCY

Patient wait times in Ambulatory Care Pharmacies

IMPROVING CLINICAL OUTCOMES

Antithrombis Patients at Extended Goal INR
September 2010 to September 2011
TRAINING OPPORTUNITIES

• Quality Improvement Team
  • QI Technician
  • QI Extern
  • Student enrolled in PharmD curriculum
  • All Pharmacy Department employees

• Excellent opportunity to expand classroom education with "real world experience"

SUMMARY AND QUESTIONS

• Closing comments
• Questions?
THANK YOU!

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sdurley@uic.edu

Connie Larson, PharmD
clarson@uic.edu