Hosting Your Own Pharmacy Practice Model Initiative (PPMI) Summit

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Advocate Christ Medical Center

I have no actual or potential conflicts of interest to disclose.

Which of the following statements best describes your level of familiarity with ASHP’s hosted PPMI Summit?

1. Not at all familiar
2. I am only a little familiar
3. I am moderately familiar
4. I am very familiar
5. I was invited and attended

Learning Objectives

• Explain the methodology used for developing the guiding principles of pharmacy practice and further refinement through an institution specific Pharmacy Practice Model Initiative (PPMI) Summit.
• Discuss strategies taken to enlist the support of pharmacy, medical, nursing, and hospital leadership during the proposal of a pharmacy practice model transformation.
• List specific steps that can be taken to ensure appropriate skills and competencies are met by the department for implementation of a patient-centered integrated practice model.

PPMI Background

• Development of a future practice model to significantly advance the health of patients

Objectives:
  – Create a framework
  – Determine services
  – Identify emerging technologies
  – Develop a template
  – Implement change

• Three major components
  1. Hospital and Health-System PPMI Summit
  2. Social Marketing Campaign
  3. Demonstration Projects

Hospital and Health-System PPMI Summit

• November 7-9, 2010 | Dallas, Texas
• 109 invitees participated
• 174-item questionnaire
• 147 points of consensus reached
  – Guidance for further development of the PPMI
  – Assist with practice model change initiatives

Institution Specific PPMI Summit

• Rush University Medical Center (RUMC)
• Chicago, IL
• 676-bed tertiary care academic medical center
• Clinical-specialist-centered model
Developing Guiding Principles

- Utilized PPMI Summit consensus statements
- Pharmacy leadership within the institution
- Health-system improvement opportunities
- Result: 4 categories with 48 statements
  - Overarching Principles
  - Services
  - Implementing Change & Responding to Challenge
  - Challenges

**RUMC PPMI Summit**

- Evening of January 25, 2011 at RUMC
- Total of 3 breakout groups
  - Pharmacists
  - Pharmacy Technicians
  - PGY2 Residents
  - College of Pharmacy faculty
- PGY1 residents as moderators
- 21 active participants; numerous observers
Institution-specific guiding principles of pharmacy practice:
1. should be created by the hospital’s Director of Pharmacy.
2. are outlined by the ASHP sponsored PPMI Summit consensus statements.
3. should be developed as a collaborative effort by pharmacists and pharmacy technicians.
4. do not pertain to healthcare disciplines outside of pharmacy in the hospital.

RUMC Capstone Conference
- Evening of March 10, 2011 at RUMC
- Purpose: to discuss future change in the pharmacy practice model and how it will impact the health-system
- Invitation extended to:
  - Pharmacy department
  - Medical and nursing leadership
  - Upper management
- Reactor panel to discuss pre-selected guiding principles

Timeline of Events
- January 1st – Guiding principles in development.
- January 17th – Survey Monkey distributed to the department.
- January 25th – PPMI Summit.
- March 25th – Capstone Conference.
- June – Guiding principles hung around the department.
- Implementation of a new pharmacy practice model at RUMC is presently ongoing.

Ensuring Competency
- Residency training versus no residency
  - Peer review
- Clinical experience
- Board certification
- Pharmacy technician certification
- Case-based examination
  - PharmPrep
  - Internally developed cases
Implementation & Competency

Staff assignments & new hiring
Determine qualifications
Change in pharmacy operations and technology training
Continuing professional development

ASHP PPMI Hospital Self-Assessment

- 106 questions assessing adoption of PPMI recommendations
- Collaborative responses encouraged
- Creates an action plan for your hospital
- Prioritizes your action plan based on feasibility and impact of implementation
- Creates a national dashboard
- Goes live in late September 2011

Hosting Your Own PPMI Recommendations

- Have a sound operational strategy
- Engage the staff early to enlist support
- Communicate with all members of the institution
- “The benefits of a successful model far outweigh the risks of inaction.”
  — Scott Knoer, PharmD.

References


Acknowledgements

Kirk Dennis, PharmD
Anne Westerman, PharmD
Karyn Zyvan, PharmD
Which of the following is an optimal way to enlist the support of medical, nursing, and hospital leadership during the proposal of a pharmacy practice model transformation?

1. Extend invitations to leadership in each discipline to attend and provide feedback at a joint conference.
2. Host a private PPMI Summit for each discipline that displays interest in the transformation of the pharmacy practice model.
3. Send an email out to the entire institution outlining the planned changes by the pharmacy department and the date when transformation will occur.
4. Provide a list of cons associated with the proposed transformation and request they fix the negative attributes.

Which of the following statements is accurate when ensuring appropriate skills and competencies are met by the department for implementation of a patient-centered integrated practice model?

1. Pharmacists without residency training should remain in distributive roles because their clinical competency is difficult to validate.
2. Pharmacy technicians are exempt from evaluation of appropriate skills because their roles remain the same in most pharmacy practice models.
3. No confirmation of skills is needed as long as the pharmacist is licensed within the respective state to practice pharmacy as a clinical specialist.
4. Residency training, board certification, and clinical experience warrant consideration when ensuring one's skills and competencies.

Contact Information

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Students Ex.T.En.D.!

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Disclosure

• I have no relationships, financial or otherwise, or any other form of conflicting interest to disclose relating to the content of this presentation.

Learning Objectives

1. Recognize how pharmacy students can be optimally engaged and integrated into practice.
2. Identify challenges and benefits associated with this education/practice goal.

Who Are We?

1. Pharmacist
2. Pharmacy Student
3. Pharmacy Technician

Preceptors Needed Now!

• Rising demand for qualified pharmacist preceptors
  – increasing number of pharmacy schools and enrollment
  – increased experiential load in pharmacy school curricula
• Meanwhile rising workload demands compete with precepting...

Rescued by Pharmacist Extenders?

• Pharmacy Practice Model Initiative
  – Themes relevant to the design of practice models:
    • “Use of residents and students as pharmacist extenders”

ASHP Proceedings of the Pharmacy Practice Model Summit. Accessed online at:
Your Take on Pharmacist Extenders?
1. I can’t wait to be a pharmacist extender!
2. I can’t wait to be an extended pharmacist!
3. None of the above

Students Ex.T.En.D. !

Students Experiencing Total Engagement Develop!

Totally Engaging Students
• Total immersion
  • Total integration
    • Total experience

Today’s Program
• NMH Drug Information student rotation
• ICHP Student Preceptor Survey
• Improving your rotation
  – Confronting the challenges
  – Reaping the benefits
• Feedback and what’s in it for you

NMH Department of Pharmacy
• Northwestern Memorial Hospital
  – 870 bed teaching hospital
  – 159 Pharmacy FTEs: 75 pharmacists, 84 techs
• Education
  – 6 PGY1 residents, 3 PGY2 residents
  – 120 APPE student rotations/year:
    • Administration, Critical Care, Drug Information, HIV, Infectious Diseases, Medicine

Department Education Support
• Students and structured daily noon sessions
  – Journal article presentations
  – Case presentations
  – Topic presentations
  – PGY1 and PGY2 presentations
NMH Drug Information Center

- DI manager and staff:
  - 1 FTE pharmacist (Drug Information)
  - 1 FTE pharmacist (Investigational Drugs)
- Operation: Weekdays
- Primary mission: serve needs of NMH care providers and patients
- Key Drug Information Functions
  - Support P&T Committee activities
  - Respond to questions from NMH staff, patients
  - Provide education to residents and students

DI Education

- Rotation for PGY1 (required) and PGY2 residents (optional)
- Experiential rotation for students from colleges of pharmacy
  - Relationship with 5 COPs (Butler, Creighton, Purdue, SIUE, UIC)
  - Past 36 months: 64 students

DI Center Student Roles

- Responding to inquiries
- Support Pharmacy and Therapeutics Committee
  - drug / drug class reviews
  - off-label use reviews
  - DUEs
  - drug shortages monitoring
  - drug policy, guideline, protocol, CPOE order set development

DI Center Student Involvement

- Students’ contributions (recent 12 months)
  - 332 documented information responses
  - 19 specific P&T works (DUEs, drug monographs or evidence reviews)
  - 23 P&T update handouts
- Important that students see their contribution is meaningful

Site Orientation

- Site assets:
  - Co-preceptors
  - Sufficient computer resources
  - Information resources – access to databases, full text books and journals subscriptions
- Quick, systematic, standardized, structured orientation

Goals/Objectives

- Offer a simple goal statement that best condenses rotation’s value to the student:
  - At the end of this rotation, students should have improved confidence in using drug and medical information resources, and improved ability to critically evaluate and communicate findings.
- Provide set of rotation objectives
Structured Orientation

Precepting Approach

- Set work pace and interaction dynamic
- Model behaviors for desired performance
- Give sufficient one-on-one contact time
- Work alongside periodically (be there)
  - Teachable moments abound
- Group discussions/techniques
- Provide examples — make the abstract real
  - Handouts, comparison templates, searching tools

Orientation Checklist

- Checklist for Systematic Retrieval of Information for P&T Reviews
- Drug monographs
- Drug class, side-by-side comparison reviews
- Off-label use evidence reviews
- DUE summaries
- P&T updates

Template Examples

Checklist for P&T Reviews

Drug Monographs
Students have active, guided role in solving drug-related problems

- Direct observation of students
  - Witnessed interactions
  - Speaker phone settings for some calls

- Review of student work
  - E-mail communication previews
  - Drug information activity documentation
**DI Activity Log**

Excerpt

**Work Examples**

- Prepare general guidance for managing patients on dabigatran who are bleeding
- Dronedarone DUE
- Prepare **Protect From Light** list for IV infusions
- Compile evidence for review of tPA use during cardiac arrest for suspected PE
- Develop **Do Not Tube** list for medications
- Review evidence on generic mycophenolate

**Research Involvement**

- Opportunities to advance student potential through research and poster presentations
  - DUEs: nesiritide, rVIIa, rituximab
  - DI Resources comparisons
    - Differences in time until addition of new information to resources
    - Differences in interaction evidence and rating in resources
    - Differences in content and evidence for off-label uses in resources

**Anecdotal Tips**

- Enthusiasm/passion for your work is evident (on the flip side - so is malaise)
- Assign reasonable portions of complex projects – with gradual push to more gains
- Small bits of continuous feedback is more natural, less awkward than large chunks
  - Do it immediately (after presentations, completion of projects, etc.)

**Student Posters at ASHP Midyear**

**Recombinant Factor VIIa is a Useful Tracer to Identify Serious Adverse Drug Reactions to Anticoagulants**

**Internet Drug References: Online and on-time?**

**Rise of Rituximab: Off-label But On the Mark?**

**Off-Label Indications in Commonly Used Drug Information Databases**

**ICHP Member Survey**

**Target: Student Preceptors**
ICHP Survey

- Conducted online August 3rd – August 12th
- Members invited to complete 8 check-off questions for:
  - Views on challenges to / benefits from integrating pharmacy students into practice
  - Survey questions devised based on items identified in literature review [2-5]
  - Tips to optimally integrate students/gain success
  - Examples of students in roles supporting practice
- 96 responded

Did you respond to this survey?

1. Yes
2. No
3. I don’t recall

Practice Setting

Precept Residents Plus Students?

Years Precepting Students

Number of Precepted Students Past 12 months
Challenges – Student Issues  

<table>
<thead>
<tr>
<th>Potential Challenge</th>
<th>Major Significance</th>
<th>Moderate Significance</th>
<th>Minor Significance</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack adequate knowledge base to perform practice roles at a desired level of competence</td>
<td>18.8%</td>
<td>35.4%</td>
<td>42.7%</td>
<td>3.1%</td>
</tr>
<tr>
<td>Overwhelmed by rotation demands</td>
<td>5.2%</td>
<td>29.2%</td>
<td>62.5%</td>
<td>3.1%</td>
</tr>
<tr>
<td>Inconsistent availability of students throughout the year</td>
<td>4.2%</td>
<td>22.9%</td>
<td>51%</td>
<td>21.9%</td>
</tr>
</tbody>
</table>

Challenges – Preceptor Issues  

<table>
<thead>
<tr>
<th>Potential Challenge</th>
<th>Major Significance</th>
<th>Moderate Significance</th>
<th>Minor Significance</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discomfort with providing feedback to students</td>
<td>2.1%</td>
<td>15.8%</td>
<td>61.1%</td>
<td>21.1%</td>
</tr>
<tr>
<td>Lacking confidence with own knowledge base</td>
<td>3.1%</td>
<td>13.5%</td>
<td>56.8%</td>
<td>27.1%</td>
</tr>
<tr>
<td>Dealing with unengaged, unmotivated students</td>
<td>24%</td>
<td>34.4%</td>
<td>33.3%</td>
<td>8.3%</td>
</tr>
<tr>
<td>Feel underprepared for preceptor role</td>
<td>4.2%</td>
<td>11.5%</td>
<td>55.2%</td>
<td>29.2%</td>
</tr>
</tbody>
</table>

Challenges – Site Issues  

<table>
<thead>
<tr>
<th>Potential Challenge</th>
<th>Major Significance</th>
<th>Moderate Significance</th>
<th>Minor Significance</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limited time to precept – due to competing work responsibilities</td>
<td>45.3%</td>
<td>31.6%</td>
<td>22.1%</td>
<td>1.1%</td>
</tr>
<tr>
<td>Inadequate work space, computers, etc. for student use</td>
<td>36.5%</td>
<td>28.1%</td>
<td>29.2%</td>
<td>6.3%</td>
</tr>
<tr>
<td>Inadequate co-preceptor support</td>
<td>11.5%</td>
<td>22.9%</td>
<td>51%</td>
<td>14.6%</td>
</tr>
<tr>
<td>Insufficient direct patient care opportunities</td>
<td>7.4%</td>
<td>15.8%</td>
<td>51.6%</td>
<td>25.3%</td>
</tr>
<tr>
<td>Negative attitudes of pharmacy coworkers toward students</td>
<td>5.2%</td>
<td>11.5%</td>
<td>52.1%</td>
<td>31.3%</td>
</tr>
<tr>
<td>Negative attitudes of other members of health care team toward students</td>
<td>1%</td>
<td>12.5%</td>
<td>59.4%</td>
<td>27.1%</td>
</tr>
<tr>
<td>Confusion on part of other pharmacy staff about student roles</td>
<td>4.2%</td>
<td>15.6%</td>
<td>54.2%</td>
<td>26%</td>
</tr>
</tbody>
</table>

Write-ins: Other Challenges

- “Would love to have students with me in medical role, but can’t do it without others co-precepting or shorter module rotations.”
- “Preceptors take students b/c we want to support the profession. There are only so many hours/day and spots on rounding team-15 people on rounds - not productive.”
- “Too many new pharmacy schools in Illinois and they are increasing requests to take students. It takes a lot of time to provide a quality rotation from a pharmacist stretched thin with daily responsibilities.”

Benefits  

<table>
<thead>
<tr>
<th>Potential Benefit</th>
<th>Major Significance</th>
<th>Moderate Significance</th>
<th>Minor Significance</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional satisfaction from developing future practitioners</td>
<td>62.5%</td>
<td>33.3%</td>
<td>4.2%</td>
<td>0%</td>
</tr>
<tr>
<td>Students with high motivation level</td>
<td>60.4%</td>
<td>32.3%</td>
<td>6.3%</td>
<td>1%</td>
</tr>
<tr>
<td>Students have a more complete experience</td>
<td>53.7%</td>
<td>38.0%</td>
<td>6.3%</td>
<td>1%</td>
</tr>
<tr>
<td>Students are more motivated and productive once fully integrated into practice</td>
<td>42.1%</td>
<td>48.4%</td>
<td>8.4%</td>
<td>1%</td>
</tr>
<tr>
<td>Makes preceptors stay up to date in their specialty</td>
<td>34.7%</td>
<td>42.1%</td>
<td>20%</td>
<td>3.2%</td>
</tr>
<tr>
<td>Students help meet practice site patient care goals</td>
<td>15.8%</td>
<td>43.2%</td>
<td>28.4%</td>
<td>12.6%</td>
</tr>
</tbody>
</table>

Which Seems Most Important... to successfully integrate students into your practice?

1. Clearly defined objectives
2. Well-structured orientation
3. Co-preceptor support
4. Ongoing contact time
5. Clear guidance and timely feedback
6. Consistent role modeling
Integrating Students Into Practice ...

<table>
<thead>
<tr>
<th>Clear guidance and timely feedback</th>
<th>13.1%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clearly defined objectives</td>
<td>18.5%</td>
</tr>
<tr>
<td>Well-structured orientation</td>
<td>37.5%</td>
</tr>
<tr>
<td>High degree of ongoing contact time</td>
<td>ICHP</td>
</tr>
<tr>
<td>Consistent role modeling</td>
<td>19.8%</td>
</tr>
<tr>
<td>Co-preceptor support system</td>
<td>17.7%</td>
</tr>
</tbody>
</table>

ICHP Write-ins: Other Tips

- “Schools need to send clear objectives and the manager needs to read them before the student gets there.”
- “Keep the rotation well-organized by providing a calendar.”
- “Make sure they have a role in your daily workload.”

How Students Support Practice Objectives

- 44 respondents gave 55 total examples

<table>
<thead>
<tr>
<th>Role</th>
<th>#</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discharge counseling</td>
<td>7</td>
</tr>
<tr>
<td>D/V/MOE</td>
<td>6</td>
</tr>
<tr>
<td>Di responses</td>
<td>4</td>
</tr>
<tr>
<td>Staff inservices</td>
<td>4</td>
</tr>
<tr>
<td>Medication reconciliation</td>
<td>4</td>
</tr>
<tr>
<td>Medication histories/interviews</td>
<td>4</td>
</tr>
<tr>
<td>Monitoring drug therapy</td>
<td>3</td>
</tr>
<tr>
<td>Anticoagulation service support</td>
<td>2</td>
</tr>
<tr>
<td>Data collection</td>
<td>2</td>
</tr>
<tr>
<td>DI reviews/updates</td>
<td>3</td>
</tr>
</tbody>
</table>

Feedback & Evaluations

User E-mails Comments on Students

- “This is extremely helpful. Thanks much for your efforts here.”
- “Thank you, great service, as always.”
- “I received an excellent review of the safety of Gleevec for treating nephrogenic systemic fibrosis since I was concerned about its cardiotoxicity and reports of CHF. The student who reviewed this topic for me did an outstanding job! ”

Student Ratings in NMH DI User Survey
Student Evaluations and Reflections on Experience

Evaluations

- Midpoint: solicit input
  - Are you learning what you expected?
  - What do you think you need to see more of?
- Final: solicit input
  - Did the rotation fulfill your expectations?
  - Are you more confident in using resources?
  - What can we do to improve the experience for future students?

Students’ Rotation Evaluations

<table>
<thead>
<tr>
<th>Item</th>
<th>Rating</th>
<th>N</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Provided access to reference materials, either hard copy or via electronic means.</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Provided opportunities for interaction with other health care professionals.</td>
<td>4</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Allowed for a variety of learning experiences.</td>
<td>4</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Had staff who were receptive and willing to interact with students.</td>
<td>4</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Provided a setting to use and expand knowledge gained during didactic studies.</td>
<td>4</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Provided adequate contact opportunities with patients and/or caregivers.</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Students’ Rotation Evaluations

- Improvement suggestions
  - “More opportunities to interact with areas that provide services since we are in the basement.”
  - “Better communication on some goals for P&T projects.”
  - “I would have liked to do a practice question before a real one - maybe include one during orientation.”

Students’ Rotation Evaluations

- Positive aspects of learning experience
  - “This rotation is well structured, guided, and the usefulness to future practice cannot be overstated.”
  - “Excellent work environment and rotation to improve on drug information skills.”
  - “Fantastic opportunities to be involved in P&T.”
  - “I learned a lot about resources I had never used and more about those I had already been using.”

Students’ Rotation Evaluations

- Comments on site accommodations for students
  - “I always had my own workstation and network access for saving and sharing documents was exceptional. The cafeteria is also great - they have sushi!”
Take-away Points

- Find ways to make student roles support patient care goals
- Provide frequent guidance and feedback
- Orient with defined objectives
- Be that role model
- Optimize site assets
- Review feedback for opportunities

1. What is least regarded for helping integrate students into a practice site?
   A. Having organized orientation and clear objectives
   B. Providing timely feedback to students
   C. Offering standard templates and documents
   D. Modeling of desired performance in key functions

2. Which challenge or benefit is considered to have major significance?
   A. (Challenge) Students overwhelmed by rotation
   B. (Benefit) Preceptors get professional satisfaction
   C. (Challenge) Insufficient patient care opportunities
   D. (Benefit) Students help meet patient care goals
   E. (Challenge) Preceptors struggle giving feedback

References


Post-test Questions

The learning objectives for the presentation, Students ExTEnD! are:

1. Recognize how pharmacy students can be optimally engaged and integrated into practice.

2. Identify challenges and benefits associated with this education/practice goal.

Corresponding assessment questions with correct answers below:

1. What is least regarded for helping integrate students into a practice site?
   A. Having organized orientation and clear objectives
   B. Providing timely feedback to students
   C. Offering standard templates and documents
   D. Modeling of desired performance in key functions

2. Which challenge or benefit is considered to have major significance?
   A. (Challenge) Students are overwhelmed by rotation
   B. (Benefit) Preceptors get professional satisfaction
   C. (Challenge) Insufficient patient care opportunities
   D. (Benefit) Students help meet patient care goals
   E. (Challenge) Preceptors struggle giving feedback
PPMI & Use of an Electronic Clinical Surveillance System

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** I have no disclosures. **

Overview

• Definitions
• PPMI Technology Initiatives
• Prioritization
• Implementation
• Lessons Learned
• Q & A

Definitions

• Clinical Decision Support¹
  – Enhancing health-related decisions & actions with organized clinical knowledge & patient info to improve healthcare delivery
• Surveillance²
  – Close watch kept over someone or something
• Clinical Surveillance System


Audience Response

• Do you have an electronic clinical surveillance system in place for your pharmacists to use at your institution?
  – Yes
  – No

Learning Objective

• An electronic clinical surveillance system incorporates which of the following:
  a. continuous monitoring of patient information
  b. continuous evaluation of patient information
  c. ability to alert care givers of change in patient status
  d. all of the above

PPMI³

• Proceeding C – Advancing the application of information technology in the medication-use process.

**PPMI³**

- **Beliefs & Assumptions**
  - C2f: Real-time monitoring that provides a queue of patients needing review & possible intervention
  - C2i: Automated systems to notify pharmacists about serum drug concentrations or other important lab values that fall outside normal range


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**Technology & PPMI⁴**

- Pharmacists as clinical medication managers
- Behavior driven around clinical care, not products
- Real-time monitoring
- Ideal work queue


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**NorthShore**

- Four hospitals
- Integrated pharmacy practice model
- Approximately 60 pharmacist FTEs
- Fully integrated EHR since 2003
- Electronic clinical surveillance system implemented in 2008

---

**NorthShore’s System**

- Clinical surveillance system internal to EHR
- Developed & maintained by pharmacy informatics personnel
- Ability to filter for specific patients
- Points assigned to patients

---

**NorthShore’s System**

- Notification if patient has never been reviewed
- Pharmacist-to-pharmacist documentation system integrated into surveillance system
Development Prioritization

• Pharmacy Clinical Services Committee
  – Diverse representation
• Customer Survey
• Historical pharmacist documentation
• Historical pharmacist interventions
  – Antimicrobials
  – Anticoagulation

Development

• Improve efficiencies
  – Push change in patient status to pharmacists
• Started small – 6 ‘rules’
  1. Renal function changing – antimicrobials
  2. Antimicrobial levels
  3. Antimicrobial assessment missing
  4. Hepatic function changing - antimicrobials
  5. INR result
  6. Platelets changing for heparin/LMWH

Development

• Pharmacist buy in
• Additional surveillance built
  – Hyperglycemia
  – Include more drugs in renal function changing
  – TPN

Learning Objective

• When launching an electronic clinical surveillance system for pharmacists, who’s opinion matters most:
  a. Yours
  b. Physicians
  c. Front-line pharmacists
  d. All of the above

Maintenance

• Determining further surveillance areas
  – Align with corporate initiatives
    • Meaningful Use
    • CMS - Core Measures
  – Antimicrobial stewardship
  – Missing warfarin order
  – PTT result
  – Any drug level result

Maintenance

• What happens when things don’t work as expected?
  – Challenges in determining what is broken
  – Competing resources
Lessons Learned

- Efficiencies gained?
- Change management
- Writing ‘smart’ surveillance tools
- Breaking habits

Key Points

- Technology plays an important role in the PPMI
- Electronic clinical surveillance systems help to push clinical information to pharmacists
- Engage many pharmacists for development

References


PPMI & Use of an Electronic Clinical Surveillance System

Kristi K Killelea, Pharm.D., BCPS
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Clinical Pharmacy in the Emergency Department: Patient Care Gone Wild

Wendy Slipke, Pharm.D.

No conflict of interest to declare

Learning Objectives

• Describe the pharmacist’s role in improving pharmaceutical care to Emergency Department patients
• Explain how to justify an emergency department pharmacist position by illustrating potential cost savings to the health care system

Swedish American Hospital

• Serves Northern Central Illinois
• Located in Rockford
  – 9th most dangerous city in US
• One of the busiest ED, outside of Chicago
  – 2005 ~ 58,000 visits annually
  – 2010 ~ 62,000 visits annually
• Level 2 Trauma Center
Emergency Department Pharmacists

- 2006
  - One pharmacist, 4 days/week coverage
- 2007
  - Two pharmacists, 7 days/week coverage
- Peak volume 12 – 10 pm
- Cost savings goal
  - Prevention of medication errors

Daily Clinical Activities

- Review and monitor care of Emergency Department patients
- Bedside management of critical patients
- Provide curbside consults
- Provide patient counseling
- Manage the culture report

Academic Interventions

- Educate the nursing and pharmacy staff
- Presented presentations at ED staff meetings
  - No drug reps
- Precept pharmacy students
Administrative Interventions
- Update policies and procedures
- Update order sets
- Improve compliance with core measures

Improve Medication Safety
- Standardize RSI kits
- Standardize Pediatric Crash Carts
- Review Automated Dispensing Cabinet
  - Remove High Risk medications
- Update outpatient prescriptions
- Psychiatric monitoring protocol

Improve Productivity
- Participate in ED Case Management
- Manage the culture report3,4
- Participate in the ED thru-put
- Evaluate outpatient medication process
Moving Forward ...

• Develop an antimicrobial stewardship program
• Define pharmacist participation in trauma
• Improve vaccination rates
• Improve continuity of care for toxicology patients
• Perform data collection for cost savings

Justification of position

• Prevention of medication errors²,⁵-⁹
• Adherence to Joint Commission Core measures¹⁰
• Avoidance of unnecessary re-admission
• Evaluate emergency department length of stay
• Evaluate medication use and cost per patient

Challenges

• “We don’t need a pharmacist”
• Difficult to demonstrate exact cost savings
• Limited space in the Emergency Department
• Choosing the right pharmacist⁸,⁹
• Role clarification
  – Clinical Activities
  – Medication Reconciliation
  – Order Verification
Bibliography


Post Test Questions:

1. Which of the following activities can be performed by an emergency department pharmacist?
   a. Research
   b. Medication Dosing
   c. Patient Counseling
   d. Medication Reconciliation
   e. All of the above

2. Prevention of medication errors is the only documented way to prove cost savings to the health system with emergency department pharmacists. True/False