Objectives
- Upon the completion of this session students should be able:
  - Describe High Performance Pharmacy and the Pharmacy Practice Model Initiative and how this relates to pharmacy technicians.
  - Describe certifications available to Pharmacy Technicians.
  - Explain how changes to the Pharmacy Technician Certification Board is working to advance tech roles.
  - Explain advanced roles in health system pharmacy internally and nationwide.
  - Describe conferences and committees geared toward pharmacy practice with a technician focused topics.
  - Describe specialty certifications available to pharmacy technicians.

Outline
- During this presentation, we will be discussing:
  - Pharmacy Practice Model and High Performance Pharmacy
  - Pharmacy Technician Certification Board (PTCB)
  - C.R.E.S.T. Initiative relating to PTCB
  - Medication Reconciliation
  - Tech-Check-Tech
  - Pharmacy Informatics and Pharmacy Purchasing
  - Regulations regarding Pharmacy Technicians at a state level
  - Specialty Certifications
  - Conference and Committees available

Poll
- Think about your experience in Hospital Pharmacy.
What types of advance roles can you foresee for Pharmacy Technicians?

Pharmacy Technician Allocation of Time Current State
- Based ASHP, Survey from 2012:
  - 79% -- Traditional drug preparation and distribution
  - 8% -- Administrative
  - 8% -- Non-traditional activities
  - 5% -- Order Processing
  - Around 0% spent on other duties

Pharmacy Technician Allocation of Time
- Non-traditional activities:
  - Initiating medication reconciliation
  - IV/PO switch programs
  - Dispensing via remote video supervision
  - Criteria based screening of medical records
  - Preparation of clinical monitoring information
  - Managing pharmacy information systems
  - Managing medication assistance programs
  - Tech check tech
The Pharmacy Practice Model Initiative (PPMI) seeks to identify how hospital pharmacies can enhance their performance—and prominence—within the health systems they serve.

The PPMI study, the latest product of the Executive Alliance’s research, identifies the 8 dimensions, or “dimensions,” in which hospital pharmacies should strive to achieve high performance.

High Performance Pharmacy

- The high performance pharmacy project, an ongoing initiative of the Health Systems Pharmacy Executive Alliance, seeks to identify how hospital pharmacies can enhance their performance—and prominence—within the health systems they serve.

- The PPMI study, the latest product of the Executive Alliance's research, identifies the 8 areas, or “dimensions,” in which hospital pharmacies should strive to achieve high performance.

High Performance Pharmacy in Action

<table>
<thead>
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</table>

HPP -- Examples of Technician focused opportunity

- Pharmacy technician training and certification
- Machine-Readable coding (full implement.)
- Pharmacy oversight of meds in all care locations (full implement)
- Unit-dose distribution system (liquids) (partial)
- Unit-dose distribution system ( solids) (partial)
- Mgmt of ADMs (use predominantly cubies)

Pharmacy Practice Model Initiative

- This practice model must be futuristic and reflect the evolution of numerous aspects of pharmacy practice in hospitals and health systems over the last 50 years including:
  - Medication-use policy and product selection
  - Medication distribution
  - Clinical pharmacy practice
  - Pharmacy technician roles
  - Pharmacists’ roles as organizational leaders
  - Adherence to standards-based practice
  - Response to the medication-use safety quality and safety
    - movements in the U.S.
  - Impact of technology
ASHP’s Pharmacy Practice Model Initiative will:

- **Create a Framework** - Create a framework for a pharmacy practice model that ensures provision of safe, effective, efficient, accountable, and evidence-based care for all hospital/health system patients;

- **Determine Services** - Determine patient care-related services that should be consistently provided by departments of pharmacy in hospitals and health systems and increase demand for pharmacy services by patients/caregivers, healthcare professionals, healthcare executives, and payers;

- **Identify Emerging Technologies** - Identify the available technologies to support implementation of the practice model, and identify emerging technologies that could impact the practice model;

- **Develop a Template** - Support the optimal utilization and deployment of hospital and health-system pharmacy resources through development of a template for a practice model which is operational, practical, and measurable;

- **Implement Change** - Identify specific actions pharmacy leaders and staff should take to implement practice model change including determination of the necessary staff (pharmacy leaders, pharmacists, and technicians) skills and competencies required to implement this model.

- **The following tasks can be assigned to pharmacy technicians who have appropriate education and training**:  
  - Initiation of medication reconciliation including obtaining and documenting patients’ medication information for pharmacists’ review. [D3a]  
  - Reviewing patient charts to identify medication allergies that require pharmacist follow up. [D3b]  
  - Checking dispensing by other technicians (i.e., “tech-check-tech”). [D3c]
Pharmacy Practice Model Initiative

- The following tasks...
  - Compounding routine sterile preparations in conformance with well-documented procedures. [D3d]
  - Dispensing medications with remote video supervision by pharmacists. [D3e]
  - Scheduling patient outpatient clinic drug therapy management visits. [D3f]
  - Criteria-based screening of medical records to identify patients who may require pharmacist intervention. [D3g]
  - Preparing clinical monitoring information (e.g., International Normalized Ratios) for pharmacist review. [D3h]
  - Inspecting and replenishing medication storage devices. [D3i]

(*) Means defined as completion of ASHP accredited training program and PTCB certification

PPMI Examples of Technician focused opportunity

- Tech: Reviewing patient charts to identify medication allergies that require pharmacist follow up.
- Tech: Conducting aspects of quality improvement programs.
- Tech: Criteria-based screening of medical records to identify patients who may require pharmacist intervention.
- Tech: Preparing clinical monitoring information (e.g., International Normalized Ratios) for pharmacist review.
- Tech: Initiation of medication reconciliation including obtaining and documenting patients' medication information for pharmacists' review
- Tech: Checking dispensing by other technicians (i.e., "tech-check-tech").

Projected changes to Pharmacy Technician Allocation of Time

- 66% -- Traditional drug preparation and distribution
- 9% -- Administrative
- 18% -- Non-traditional activities
- 6% -- Order Processing
- Around 0% spent on other duties

Pharmacy Technician Certification

- New England
  - Connecticut – 1,990
  - Maine – 1,010
  - Massachusetts – 5,307
  - New Hampshire – 775
  - Rhode Island – 1,135
- Top Three states nationwide
  - Texas – 40,778
  - California – 22,658
  - Florida – 18,872
- ptcb.org

Pharmacy Technician Certification Exam

- Requirements
  - High school diploma or equivalent educational diploma (e.g., a GED or foreign diploma)
  - Passing score on the Pharmacy Technician Certification Exam (PTCE)
    - Passing scaled score for the update PTCE is 1400
    - A range of possible scores of 1000 to 1600.
  - Full disclosure of all criminal and State Board of Pharmacy registration or licensure actions
  - Compliance with all applicable PTCB certification policies
Pharmacy Technician Certification Exam

- Two-hour, multiple-choice, exam with 90 questions

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<th>Domain Description</th>
<th>% of PTCE Content</th>
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<td>Pharmacology for Technicians</td>
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<td>2</td>
<td>Pharmacy Law and Regulations</td>
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<tr>
<td>3</td>
<td>Sterile and Non-sterile Compounding</td>
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<td>4</td>
<td>Medication Safety</td>
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<td>5</td>
<td>Pharmacy Quality Assurance</td>
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<td>6</td>
<td>Medication Order Entry and Fill Process</td>
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<td>7</td>
<td>Pharmacy Inventory Management</td>
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<td>8</td>
<td>Pharmacy Billing and Reimbursement</td>
<td>8.75</td>
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<tr>
<td>9</td>
<td>Pharmacy Information Systems Usage and Application</td>
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C.R.E.S.T. Initiative

- Consumer Awareness, Resources, Education, State Policy and Testing (C.R.E.S.T.)
  - A national survey of pharmacists and technicians that indicated overwhelming support for national standards
    - Focused on Training
    - Education
    - Certification
    - Regulatory oversight of pharmacy technicians

- C.R.E.S.T. Summit proceedings, most commonly technicians are involved in:
  - Purchasing and inventory maintenance
  - Data input
  - Billing and insurance
  - Assisting in prescription dispensing
  - Pre and re-packaging
  - Compounding sterile and non-sterile products
  - Leadership or supervisory roles

- C.R.E.S.T. Initiative
  - To qualify for PTCB certification, each new candidate must complete a(n):
    - Criminal background check by 2014
      - In a March 2012 survey, 88% of 17,400 respondents recommended that PTCB require background checks for technicians applying for the PTCB Certification Program.
    - ASHP-accredited pharmacy technician education program by 2020

- C.R.E.S.T. Initiative
  - To qualify for PTCB recertification, each Certified Pharmacy Technician (CPhT) must complete:
    - One hour of medication safety continuing education (CE) by 2014
    - Twenty hours of pharmacy technician-specific CE by 2015
    - The number of CE hours accepted will be modified for those earned:
      - Via college/university coursework—from 15 to 10 hours by 2016
      - Through in-services—from 10 to 5 hours in 2015, and from 5 to 0 in 2018
Importance of Medication Reconciliation

- 1999, the Institute of Medicine report To Err Is Human: Building a Safer Health System
  - Medication errors as the most common type of health-system error
  - With reported costs of $2595–4685 per adverse drug event
  - Drug-related morbidity and mortality were estimated to cost over $177 billion in 2000 alone.

Pharmacy Technician Medication Reconciliation

- Develop the list of current medications the patient is taking.
- This is generally a five-step process:
  - Develop a list of current medications.
  - Develop a list of medications to be ordered/prescribed by the admitting physician.
  - Compare the medications on the two lists.
  - Make clinical decisions based on the comparison.
  - Communicate the new list to appropriate caregivers and the patient.

Pharmacy Technician Medication Reconciliation

- One example Inova Alexandria Hospital, Alexandria, VA
  - Pharmacy technician is tasked to develop the list of current medications the patient is taking.
  - Focuses on patients in the emergency department (ED) who have been identified for admission
  - Furthermore, patients who have already been admitted and have a diagnosis of congestive heart failure whose medications were not reviewed in the ED

Pharmacy Technician Medication Reconciliation

- Program using pharmacy technicians to obtain medication histories,
  - Potential errors due to incomplete or incorrect information, illegible orders, and serious drug interactions were reduced by 82% by having pharmacy technicians obtain medication histories.

Pharmacy Technician Medication Reconciliation

- Starts with an interview where the technician asks about the patients' home medications
  - Drug
  - Dose
  - Frequency
  - Special circumstances when the drug is taken
  - Over the counter products
  - Supplements

Pharmacy Technician Medication Reconciliation

- Technicians are also asked by ED physicians to perform medication reconciliation on patients who may be taking specific medications helpful for the physician to be aware
  - Pradaxa
  - Digoxin
Pharmacy Technician Medication Reconciliation

- Patients often bring a medication list, an assortment of medication vials or both.
- In order to create an accurate list of medications the patient phone calls may need to be made
  - Outside Pharmacies
  - Offices of primary care physicians and specialists
  - Nursing and assisted living facilities
  - Other hospitals and health care providers

A study undertaken in 2005, *Unintended medication discrepancies at the time of hospital admission*, found that “More than half of patients have ≥1 unintended medication discrepancy at hospital admissions.”

This was broken down as:
- 6% Severe harm potential
- 33% Moderate harm potential
- 61% No harm potential

Tech-Check-Tech (TCT)

- The goal of this program is to utilize well-trained pharmacy technicians to perform daily non-judgmental pharmacy functions, and allow the pharmacist to perform more clinical and patient counseling services.
  - Cartfill
  - Automated Dispensing Batch Refills
  - Non-sterile Compounding

Why is it beneficial to the pharmacy
- Overall time for pharmacists spent on checking medication doses for cart fill was reduced from an average of 6 hours, 5 minutes per day to 20 minutes per day—a 94.5% reduction in the time pharmacists spent checking medication carts.
- Time savings allows pharmacists to provide additional clinical patient care and teaching activities.

Tech-Check-Tech (TCT) - Checking accuracy

<table>
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<tr>
<th>Role</th>
<th>Technician</th>
<th>Pharmacist</th>
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<tbody>
<tr>
<td>Accuracy Rate (percentage)</td>
<td>99.9%</td>
<td>99.8%</td>
</tr>
<tr>
<td>Error-Detection Rate (percentage)</td>
<td>97.0%</td>
<td>94.3%</td>
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</tbody>
</table>

Tech-Check-Tech (TCT) - Checking accuracy results

- Sample size: 15,252
  - Accuracy Rate
    - Technician 99.9%
    - Pharmacist 99.8%
  - Error-Detection Rate
    - Technician 97.0%
    - Pharmacist 94.3%
Tech-Check-Tech (TCT)

- Checking prefilled medication syringes
- Sample size 10,608
  - Accuracy Rate
    - Technician 99.83%
    - Pharmacist 99.86%

Tech-Check-Tech Requirements and Validation

- Wisconsin - Technician eligibility
- Pharmacy technician working full-time with > 1 year of experience
- Must be a certified pharmacy technician
- Complete specific training
  - Self-learning packet
  - Simulated practice training

Tech-Check-Tech Requirements and Validation

- Wisconsin - Technician Validation
  - Must obtain 99.8% accuracy rate in checking 3500 consecutive doses (divided in 5 separate audits) for both ADC stock batches and unit of use doses
  - Techs must identify > 7 errors per 3500 doses in order to become validated
  - Pharmacist will introduce errors at minimum rate of 0.2%
  - Errors recorded in a log

Tech-Check-Tech

- A lot of questions relating to when and where to use this practice:
  - What is the range of duties for tech/check/tech?
  - Are we stating technicians check IV Admixture?
  - New Orders? Cart fill? Automated Machine Refill?
  - Is there new/increased liability placed on pharmacists?
  - Does technology make a difference?
  - Bar Code Scanning?
  - What QA processes should be in place?

Tech-Check-Tech Barriers

- Practice is not allowed in Massachusetts
- Lack of standardized practice
  - In states that allow TCT it is up to the hospital to define acceptable thresholds.
- Pharmacists are so removed from the drug distribution process that they would not be involved in the design and delivery of medications.
  - Key stakeholders kept out of the distribution loop.

Pharmacy Informatics

- What is Pharmacy Informatics?
- Pharmacy informatics is the scientific field that focuses on medication-related data and knowledge within the continuum of healthcare systems - including its acquisition, storage, analysis, use and dissemination - in the delivery of optimal medication-related patient care and health outcomes. (HIMSS October 2006)
Pharmacy Informatics

- The pharmacy informaticist focuses on application of technology for pharmacists in:
  - Supporting,
  - Streamlining,
  - Improving workflow,
  - Increasing patient safety with best practices and reliable systems.

Status of State Regulation of Pharmacy Technicians (NABP Survey of Pharmacy Law-2012)

- Regulations on TRAINING
  - 33 states require education and training (non-accredited)
  - (ND, SC and NV specifically recognize ASHP accreditation in some form)

- Regulations on CERTIFICATION
  - PTCB recognition in 30 states as one option for registration or for expanded tech responsibilities

Status of State Regulation of Pharmacy Technicians (NABP Survey of Pharmacy Law-2012)

- Regulations on REGISTRATION
  - 33 states require registration
  - 7 states require licensure
  - 12 states have no registration or licensure requirements

Status of State Regulation of Pharmacy Technicians (NABP Survey of Pharmacy Law-2012)

- Regulations on TECH-CHECK-TECH
  - 13 states allow tech check tech
  - Closer to 17 states allow tech check tech
  - California, Colorado, Idaho, Iowa, Kansas, Kentucky, Michigan, Minnesota, Montana, North Carolina, North Dakota, Oregon, South Carolina, Texas, Tennessee, Washington, and Wisconsin

Specialty Certifications

- Offered by National Pharmacy Technician Association
  - Sterile Products (IV) Certification
  - Chemotherapy Certification
  - Compounding Certification


Specialty Certifications

- Sterile Products (IV) Certification
  - Designed to train pharmacy technicians on the topic of sterile product preparation and aseptic technique, including USP <797>.

- Course Details
  - 9 Home Study Modules
  - 2 Days Hands-On Training
  - 8 Process Technique Validations
Specialty Certifications

- **Chemotherapy Certification**
  - Designed to train pharmacy professionals on the proper handling of hazardous drugs. Most health system pharmacy settings require Chemo/Hazardous Drug Certification and/or prior experience for employment consideration.
  - **Course Details**
    - 10 Home Study Modules
    - 1 Days Hands-On Training
    - 5 Process Technique Validations

- **Compounding Certification**
  - Designed to train pharmacy technicians on the topic of extemporaneous, non-sterile pharmaceutical compounding.
  - **Course Details**
    - 10 Home Study Modules
    - 2 Days Hands-On Training

Leadership

- **Committee involvement**
  - American Society of Health System Pharmacists
    - Ashp.org
  - Pharmacy Technician Certification Board
    - PTCB.org
  - Massachusetts Society of Health System Pharmacists – Technician Committee
    - MASHP.org
  - National Pharmacy Technician Association
    - NAPT.org

- **Conferences**
  - American Society of Health System Pharmacists
    - Midyear and Summer Meetings
  - Massachusetts Society of Health System Pharmacists
    - Annual Meeting
  - American Association of Pharmacy Technicians Convention
  - Pharmacy Technician Educators Council
    - Annual Conference

Concluding Thoughts

- Pharmacies must develop team members that are willing to take ownership in the training and ongoing competency of staff
- PPMI allows for redirection of staff in different directions and being able to do this as seamlessly as possible without impacting patient safety

Poll

- After this presentation

- Are there any other roles can you foresee for Pharmacy Technicians?
Questions

References