Shaping the Workforce of Tomorrow: Preparing Technicians for Advanced Roles
# Speaker Contact

<table>
<thead>
<tr>
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<th>Sarah Lawrence, PharmD, MA, BCGP</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Director, Pharmacy Technician Program</td>
</tr>
<tr>
<td>PharmTechX Coordinator</td>
<td>Assistant Professor</td>
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<td>Sullivan University</td>
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</tr>
</tbody>
</table>
Disclosures

- Dr. Ashlee Mattingly has the following disclosure:
  - Coordinator for the PharmTechX Program – an advanced technician training program

- Dr. Sarah M. Lawrence has nothing to disclose.
Pharmacy Technician Learning Objectives

After completing this activity, pharmacy technicians should be able to:

1. Identify advanced roles for pharmacy technicians in all practice settings.
2. Compare and contrast the challenges and opportunities with advanced preparation of pharmacy technicians.
3. Map the workflow of advanced pharmacy technicians in the inpatient and outpatient settings.
Pharmacist Learning Objectives

After completing this activity, pharmacists should be able to:

1. Describe existing advanced roles for pharmacy technicians in all practice settings.

2. Discuss the challenges and opportunities associated with preparing pharmacy technicians for advanced roles in pharmacy practice.

3. Propose a potential pharmacy workflow in both the inpatient and outpatient setting to incorporate the advanced roles of pharmacy technicians.
Existing Advanced Roles

➢ Tech-check-tech – primarily inpatient
➢ Transitions of care
  ➢ Medication history
  ➢ Prior authorization assistance
➢ Clinical technician
➢ Purchaser
➢ Informatics technician
➢ Lead technician

1. https://www.ashp.org/Pharmacy-Technician/About-Pharmacy-Technicians/Advanced-Pharmacy-Technician-Roles
Can Technicians Do It?

- Tech-check-tech
- Adams et al\(^2\)

<table>
<thead>
<tr>
<th>Author</th>
<th>Facility</th>
<th>Situation</th>
<th>Sample Size</th>
<th>Errors Introduced</th>
<th>Sample Size</th>
<th>Accuracy Rate</th>
<th>Error-Detection Rate</th>
<th>Significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stafford</td>
<td>Tertiary care institution</td>
<td>Unit dose envelopes</td>
<td>15,252</td>
<td>2-4% (510)</td>
<td>99.9%</td>
<td>99.8%</td>
<td>97%</td>
<td>94.3%</td>
</tr>
<tr>
<td>Anderson</td>
<td>Specialty pharmacy</td>
<td>Prefilled syringes</td>
<td>10,608</td>
<td>N/A</td>
<td>99.83%</td>
<td>99.86%</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Enderlin</td>
<td>Children’s hospital</td>
<td>Unit dose carts</td>
<td>8,645</td>
<td>0.2% (19)</td>
<td>98.95%</td>
<td>N/A</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Can Technicians Do It?

- **Medication History**
  - Smith et al\(^3\)

<table>
<thead>
<tr>
<th>Accuracy of Home Medication List</th>
<th>Reconciliation of Home Medications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Intervention</td>
<td>Post-Intervention</td>
</tr>
<tr>
<td>44.2%</td>
<td>95%</td>
</tr>
</tbody>
</table>

- **Markovic et al\(^4\) and Michels et al\(^5\)**

<table>
<thead>
<tr>
<th>Author</th>
<th>Total Orders</th>
<th>Histories with Errors</th>
<th>Total Medications</th>
<th>Medications with Errors</th>
<th>Significant</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>RN</td>
<td>PT</td>
<td>RN</td>
<td>PT</td>
<td>Significant</td>
</tr>
<tr>
<td>Markov</td>
<td>50</td>
<td>50</td>
<td>50 (100%)</td>
<td>18 (36%)</td>
<td>YES</td>
</tr>
<tr>
<td>Michels</td>
<td>182</td>
<td>585</td>
<td>1.45 (mean)</td>
<td>0.76 (mean)</td>
<td>YES</td>
</tr>
</tbody>
</table>

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Can Technicians Do It?

➢ Medication History

➢ Johnston et al\textsuperscript{6}

➢ 60 patients included
  ➢ 30 interviewed by pharmacist 1\textsuperscript{st}
  ➢ 30 interviewed by technician 1\textsuperscript{st}
  ➢ 1 excluded due to cognition

<table>
<thead>
<tr>
<th>Product Type</th>
<th># of Patients with Discrepancies</th>
<th>Significant</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pharmacist</td>
<td>Technician</td>
</tr>
<tr>
<td>Prescription</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 discrepancies</td>
<td>47</td>
<td>50</td>
</tr>
<tr>
<td>≥ 1 discrepancy</td>
<td>12</td>
<td>9</td>
</tr>
<tr>
<td>OTC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 discrepancies</td>
<td>52</td>
<td>53</td>
</tr>
<tr>
<td>≥ 1 discrepancy</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>Discrepancies/pt</td>
<td>Prescript</td>
<td>OTC</td>
</tr>
<tr>
<td></td>
<td>0.25 ± 0.54</td>
<td>0.24 ± 0.68</td>
</tr>
<tr>
<td></td>
<td>0.14 ± 0.39</td>
<td>0.15 ± 0.48</td>
</tr>
</tbody>
</table>

Can Technicians Do It?

- Clinical Pharmacy Technician
- Irwin et al\textsuperscript{7}
  - Kaiser Permanente Colorado
  - PCPT* in a Clinical Pharmacy Osteoporosis Management Service
  - Reviewed patients to assess compliance with HEDIS* osteoporosis measure – 3 categories
    - Category 1 – in compliance
    - Category 2 – not in compliance and requiring intervention
    - Category 3 – not in compliance and not requiring intervention

\textsuperscript{7} Irwin AN et al. “Use of a pharmacy technician to facilitate postfracture care provided by clinical pharmacy specialists. \textit{Am J Health-Syst Pharm}. 2014; 71:2054-59.

* Primary Care Pharmacy Technician
* Healthcare Effectiveness Data and Information Set
Can Technicians Do It?

- Clinical Pharmacy Technician
- Irwin et al\textsuperscript{7}
- 127 patients reviewed

<table>
<thead>
<tr>
<th>Category</th>
<th>Number of Patients – PCPT</th>
<th>Number of Patients – PCCPS*</th>
<th>Agreement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>26 (20.3%)</td>
<td>26 (20.3%)</td>
<td>100%</td>
</tr>
<tr>
<td>2</td>
<td>30 (23.4%)</td>
<td>27 (21.2%)</td>
<td>86.7%</td>
</tr>
<tr>
<td>3</td>
<td>71 (55.5%)</td>
<td>74 (58.3%)</td>
<td>93%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>Overall Agreement</strong> 92.9%</td>
</tr>
</tbody>
</table>

* Primacy Care Clinical Pharmacy Specialist

Irwin AN et al. Use of a pharmacy technician to facilitate postfracture care provided by clinical pharmacy specialists. \textit{Am J Health-Syst Pharm.} 2014; 71:2054-59.
Can Technicians Do It?

- Clinical Pharmacy Technician
- Man and Mabasa
  - Burnaby Hospital in British Columbia
  - Clinical pharmacy support assistant (CPSA)
  - Warfarin dosing and monitoring
    - Data collection
    - Monitoring of efficacy and safety
  - Screening for drug-drug interactions
  - Dosage recommendations
  - Recommendations reviewing by a pharmacist

Can Technicians Do It?

- Clinical Pharmacy Technician
  - Man and Mabasa
  - 60 patient encounters
  - Average difference in dose was 0.46 mg

<table>
<thead>
<tr>
<th></th>
<th>Number of Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accuracy in data collection</td>
<td>59 (98%)</td>
</tr>
<tr>
<td>Pharmacist agreement in dose</td>
<td>39 (65%)</td>
</tr>
<tr>
<td>Pharmacist disagreement in dose</td>
<td></td>
</tr>
<tr>
<td>Lower dose</td>
<td>15 (25%)</td>
</tr>
<tr>
<td>Higher dose</td>
<td>6 (10%)</td>
</tr>
</tbody>
</table>
Can Technicians Do It?

*If “well trained”*
Required Training

➤ More Roles = More Responsibilities = More Training

➤ “Well-trained”
  ➤ National certification?
  ➤ Minimum practice experience?
  ➤ Formal education?
  ➤ On-the-job training?
Breakout Session

What training requirements do you think constitute a “well-trained” technician?
## Required Training

<table>
<thead>
<tr>
<th>Stafford et al(^2)</th>
<th>Anderson et al(^9)</th>
<th>Enderlin et al(^2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No state requirements</td>
<td>No state requirements</td>
<td>No state requirements</td>
</tr>
<tr>
<td>Tech-check-tech</td>
<td>Tech-check-tech</td>
<td>Tech-check-tech</td>
</tr>
<tr>
<td>1 year work experience</td>
<td>Proficient in aseptic technique</td>
<td>1 year work experience OR 6 months experience + CPhT</td>
</tr>
<tr>
<td>&lt;2 hours of training</td>
<td>6 months work experience OR &gt;1 year experience preparing IVs</td>
<td>Didactic training</td>
</tr>
<tr>
<td></td>
<td>5 1-hour training sessions</td>
<td>Practical training</td>
</tr>
<tr>
<td></td>
<td>Review of common errors</td>
<td>Practical training</td>
</tr>
<tr>
<td></td>
<td>Discussion of medications used</td>
<td>Practical training</td>
</tr>
<tr>
<td></td>
<td>Unit dose and aseptic technique</td>
<td>Practical training</td>
</tr>
<tr>
<td></td>
<td>Practical training</td>
<td>Standard error tolerances</td>
</tr>
<tr>
<td></td>
<td>Standard error tolerances</td>
<td></td>
</tr>
</tbody>
</table>

### Required Training

<table>
<thead>
<tr>
<th>SMITH ET AL(^3)</th>
<th>MARKOVIC ET AL(^4)</th>
<th>MICHELS ET AL(^5)</th>
<th>JOHNSTON ET AL(^6)</th>
</tr>
</thead>
</table>
| North Carolina in 2008  
  - Complete on-the-job training  
  - Medication History  
  - No mention of additional training | New Jersey in 2015  
  - No state requirements  
  - Medication History  
  - Employed for 2 years  
  - 1 week of training from ED pharmacist | Minnesota in 2002  
  - No state requirements  
  - Medication History  
  - Most experienced  
  - Strong communication skills  
  - 1-on-1 supervision with a pharmacist  
  - Shadow an admission nurse  
  - Certification encouraged | New Brunswick in 2008  
  - No requirements  
  - Medication History  
  - Interactive learning and education session  
  - Background readings  
  - Practice interviews  
  - Competency assessment |

*Technician was not certified*
## Required Training

<table>
<thead>
<tr>
<th>IRWIN ET AL(^7) – OSTEOPOROSIS</th>
<th>MAN AND MABASA(^8) – WARFARIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Colorado in 2012</td>
<td>- British Columbia in 2011</td>
</tr>
<tr>
<td>- No state requirements</td>
<td>- Graduate from a technician program accredited by the Canadian Council for Accreditation of Pharmacy Programs</td>
</tr>
<tr>
<td>- Primary Care Pharmacy Technician</td>
<td>- Pharmacy Technician Structure Practical Training Program</td>
</tr>
<tr>
<td>- PTCB certification encouraged*</td>
<td>- Jurisprudence Exam</td>
</tr>
<tr>
<td>- 10 hours of training</td>
<td>- Pharmacy Examining Board Pharmacy Technician Qualifying Exam</td>
</tr>
<tr>
<td>- Didactic training</td>
<td>- Clinical Pharmacy Support Assistant</td>
</tr>
<tr>
<td>- Osteoporosis background and management</td>
<td>- 4 didactic sessions</td>
</tr>
<tr>
<td>- Orientation to electronic health record</td>
<td>- Disease pathophysiology</td>
</tr>
<tr>
<td>- Supervised practice reviewing fracture reports</td>
<td>- Warfarin pharmacology</td>
</tr>
</tbody>
</table>

*Technician had PTCB certification
Required Training

- Similarities
  - Minimum work experience
  - Additional on-the-job training tailored to the specific task

- How does this compare with what you think?
Opportunities and Challenges

➢ Challenges – barriers to advancing technicians
  ➢ Statutory/regulatory authority
    ➢ No consensus amongst states as to the definition or roles of a technician
    ➢ What roles can be delegated to a technician?
    ➢ Will the new role require Board approval? Statutory/regulatory changes?
  ➢ Statutory/regulatory recognition
    ➢ No definition of an advanced technician
  ➢ Training
    ➢ No national standard for entry-level technicians
    ➢ What is a “well-trained” technician?

Opportunities and Challenges

- Challenges – barriers to advancing technicians
  - Buy-in from pharmacists
    - If technicians are advanced will that decrease pharmacist jobs?
    - Liability
  - Cost – pharmacy vs technician
    - More roles = more responsibilities = more training = $$
  - Cost – implementing new clinical services
  - Buy-in from technicians
    - How will taking on an advanced role benefit the technician?
    - Liability
Opportunities and Challenges

- Opportunities – benefits to advancing technicians
  - Increase in pharmacist time to spend on clinical tasks
    - Improve patient safety
  - Create a career ladder for technicians
  - Increase job satisfaction?
  - Increase salaries?
Breakout Session

1. How can a pharmacy incorporate advanced technician roles into the workflow of an outpatient pharmacy?

2. How can a pharmacy incorporate advanced technician roles into the workflow of an inpatient pharmacy?
Workflow – Inpatient Central Pharmacy

**NEW TASK: Technician Verification**

**Batch Fill**
- Labels Printed and Prepared
- Pharmacist Verification
- Delivery to Floor

**First Dose**
- Order Received
- Pharmacist Verification
- Label Printed and Prepared
- Pharmacist Verification
- Delivery to Floor

**NEW TASK: Purchaser**
Workflow – Inpatient Clinical Pharmacy

Clinical Pharmacy

- Medication Reconciliation
- Dose and Monitor Medications
- Medication Optimization
- Round with Patient Care Team
- Discharge Counseling

NEW TASK: Medication History Technician

NEW TASK: Clinical Data Collection

NEW TASK: Run Reports for Disease States

NEW TASK: Prior Authorization Assistance

NEW TASK: Compile Discharge Medication List

NEW TASK: Meds-to-Beds Program
Workflow – Outpatient Pharmacy

Refill Rx
- Rx Label Printed and Prepared
- Pharmacists Verification
- Bagged and Filed for Pick-Up
- Patient Pick-Up

New Rx
- Rx Data Entry
- Rx Label Printed and Prepared
- Pharmacist Verification
- Bagged and Filed for Pick-Up
- Patient Pick-Up

NEW TASK: MTM & vaccination screening

NEW TASK: Technician verification

NEW TASK: Schedule MTM or vaccine, if desired

NEW TASK: Mediation & allergy history

NEW TASK: MTM & vaccination screening

NEW TASK: Schedule MTM or vaccine, if desired
Coming Soon?

- Administering immunizations
  - Idaho
- Counseling on OTC medications
- Residency programs
  - Cedars-Sinai
- Tech-check-tech in a community setting
- Advanced certification exams from PTCB
QUESTIONS