


## Changing your practice model? Techs, Technology & Techniques

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## Conflicts of Interest

I have no conflicts of interest to declare.



**Farcus** by David Waliglass  
Gordon Coulthart

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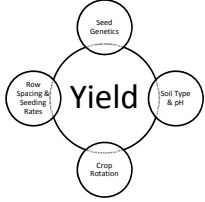

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## Increasing Corn Production



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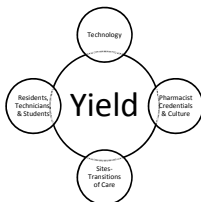
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## Advancing pharmacy practice is like growing corn



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## Participant Question

Which of these five factors is the most important for advancing the practice model and why?

1. Availability of technology
2. Adequate number of residents, technicians, and students
3. Adequate number of highly skilled, trained and credentialed pharmacists
4. Department culture
5. Unmet need for pharmacist services – medication reconciliation, medical home, accountable care organization



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## Overarching "Yield" Questions

1. *How do we improve pharmacist participation in multidisciplinary care?*
2. *How do we move pharmacists closer to where patient decisions are being made about medications?*
3. *How do we become more accountable for medication use and outcomes?*



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### Case Study

A 670 university medical center hospital pharmacy with a clinical pharmacist centered practice model has been asked to reduce it's labor budget by 3% per year for the next three years. The average daily adjusted census is 475 patients.

#### Labor and Expense Benchmarks

Indicator	2010 ASHP Survey	670 bed hospital	Delta
Drug cost per admission (median)	\$627.51	\$721.92	+15%
Drug cost per patient day (median)	\$115.12	\$133.33	+15.8%
Pharmacists per 100 occupied beds	15.4	12.0	-22%
Technicians per 100 occupied beds	13.2	9.9	-25%




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
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### Case Study

Clinical Pharmacist Centered Practice Model


Clinical Specialist Pharmacist

Rounds & Education	Drug Utilization
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Order Review Pharmacist

Best Practice Alerts	Formulary Guidelines
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Drug Distribution Pharmacist

Unit Dose Checking	IV, TPN & Chemo Checking
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### Case Study

Technology Checklist	
Comuterized Prescriber Order Entry	✓
Best Practice Alerts – Pre-Qualification Checklists	✓
Clinical Decision Support (TheraDoc, Medmined, Senti7)	✗
Bar Code Medication Administration	✗
Automated Dispensing Cabinets with Bar Code Pick & Load	✓
Consolidated inpatient & ourtpatient prescription history (EPIC, InterMedHx, Health Care Systems)	✓




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## Robotic IV Preparation Systems

- OVERVIEW
  - Improves safety, accuracy, and efficiency
  - Adult, pediatric and neonatal medication preparation
- Problems solved
  - Eliminates preparation errors
  - **Allow less expense by reduction in outsourced meds**
  - **Reduces waste**
  - **Utilizes less expensive bulk vials**



Annual ROI	
Drug Expense	(\$713,000)
Labor Expense	\$ 92,544
Lease Expense	\$230,834
Maintenance	\$ 65,000
Net Savings	(\$268,378)




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## IV Preparation Systems

- OVERVIEW – DoseEdge
  - Barcode scan of drug, diluent, and finished product
  - Remote checking
  - Preparation instructions and calculations
- Problems solved:
  - Organizes workflow to **reduce waste** and re-work
  - **Allows second check of high risk meds prep**
  - **Allows a means to comply with TIC guidelines for IV compounding in outpatient clinics**
  - **Allows alternative staffing in satellites**




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## Dispensing



1. Drugs are picked from the Carousel



2. Placed in a separate bin for each automated dispensing cabinet



3. Quality check by a Pharmacist




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### Dispensing



4. Medications are transported to the nursing ward

5. Medications are stocked in the automated dispensing cabinet

6. Medications are bar code scanned to verify they are placed in the correct compartment



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### Case Study

Technician Checklist	
Unit-based role → drug distribution/missing medications/nursing unit inspections	!
Performance monitoring/clinical screening	!
Narcotic distribution	✓
Order filling/unit dose packaging	✓
Sterile product preparation	✓
Purchasing	✓



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### Technicians & Technology

- Reduce human factor errors with technology
- Move from a pharmacist “heavy” to a pharmacist “light” system **drug distribution system**



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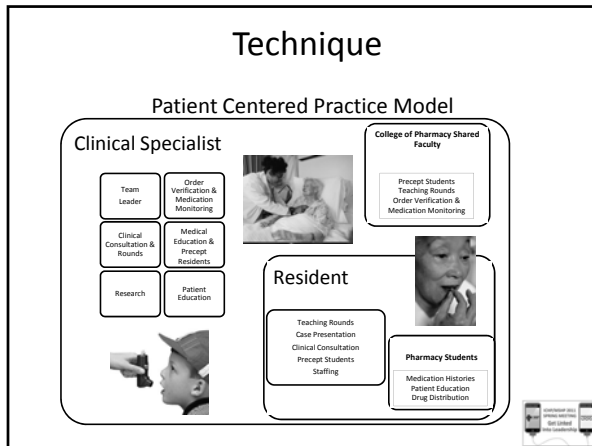
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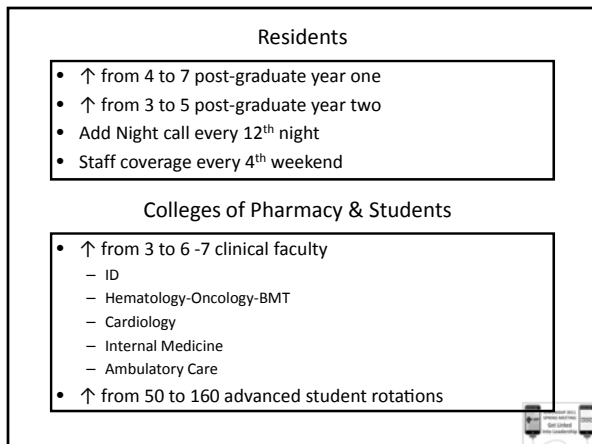
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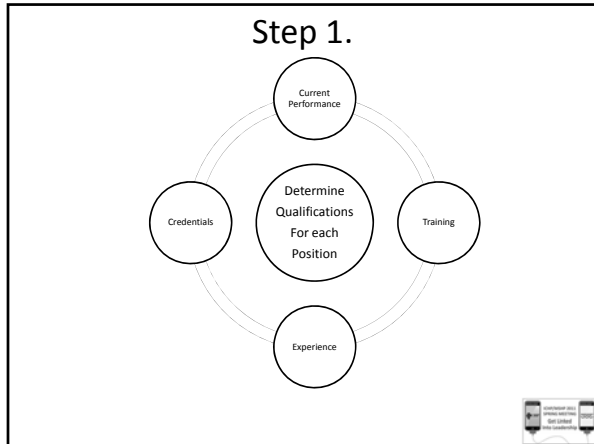
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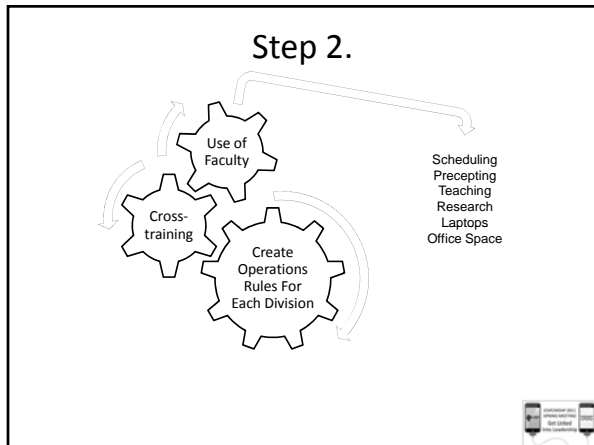
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### Step 3.

Staff that are qualified may interview with each division.

Staff assignments are made based on performance and tenure when multiple individuals are requesting the same job.

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### Step 4.



New staff will be assessed – peer/case review (PharmPrep).  
Personal continuing professional development plan will be developed. May include non-traditional residency, PSAP prep for BPS exam or other.



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### Summary

- Changing a practice model can take several years
- Seize the opportunities that you have ahead of you
- Look for partners
- Don't let a good crisis go to waste



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ICHP/MSHP 2011 Spring Meeting  
Pharmacy Practice Model Initiative – The Results are in!  
Kevin Colgan, BS Pharm, MA Health Services Administration  
121-000-11-016-L04-P  
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Post Test Questions:

1. What is a practice model?
  - A. A description of how pharmacy resources are deployed to provide patient care services
  - B. Description of how pharmacists practice and provide care to patients
  - C. Description of how pharmacy technicians are involved to support care
  - D. Description of the use of automation and technology in the medication use system
  - E. All of the above
  
2. Which type(s) of technology can have excellent returns on their investment?
  - A. CPOE
  - B. Dispensing Carousels
  - C. IV Robotics
  - D. Clinical Decision Support
  - E. All of the above