Pharmacist's Role in Addressing the Rising Insulin Prices

NDSU SCHOOL OF PHARMACY

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Background

Insulin is a necessary medication for patients with diabetes, however, rising costs have made it extremely difficult for patients to afford it. This issue can result in dangerous rationing of insulin or electing to not use the medication altogether because patients cannot afford the high prices.

Barriers to adherence of insulin regimens can lead to physical and mental complications of a patient's health. A study highlighted in an Endocrine Society article indicated that better access to insulin, and therefore, better adherence could save almost $5 billion in emergency visits and hospitalizations.[1]

Insulin inaccessibility due to rising costs is a medical emergency, and it is crucial for health care providers to play an active role in assisting their diabetic patients. Pharmacists can use their medication expertise to drive efforts to increase transparency and education on this issue.

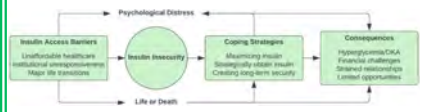
How Cost Has Affected Insulin Purchase/Use In The Past Year	
Regularly take less than the prescribed dose	26%
Missed 1-2 doses per week	23%
Dr/I chose a cheaper insulin	23%
Missed 1-2 doses per month	20%
Used a patient assistance program	20%
Used a discount drug website/program	20%
Did not fill at least on prescription	18%
Used a rebate or coupon	17%
My health/Rx plan chose a cheaper insulin	14%

Adapted from the *ADA Insulin Affordability Survey 2018*,[3] slide number 17

"Life or Death"

A group of individuals with type 1 diabetes were interviewed to discuss the mental and emotional hardships they have encountered in response to insulin access barriers.

Experiences such as unaffordable health care, institutional unresponsiveness, and life transitions caused these individuals to experience difficulties securing their medication. This often lead to negative health consequences such as uncontrolled diabetes and poor overall health.[2]



Adapted from the *"Life or Death": Experiences of insulin insecurity among adults with type 1 diabetes in the United States*,[2] page 6

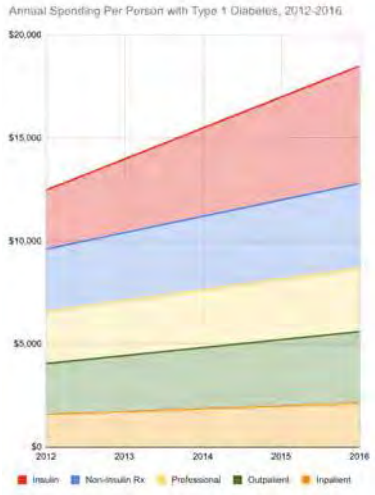
Approximately 7.4 million Americans with diabetes use one or more formulations of insulin[1]. A survey conducted by the American Diabetes Association (ADA) found that 27% of respondents indicated the cost of their insulin has affected how they take their insulin, or even the purchase of their medication.[3]

Recent Trends of Insulin Prices

A study of type 1 diabetics measured spending on medical care and insulin formulations to better understand how cost has increased exponentially.

Insulin accounted for 31% of total spending per person. This totaled about $5,700 yearly, per person. From 2012 to 2016, insulin spending doubled, and this increase in spending was twice any other category.[4]

In the 2018 Insulin Affordability Study, the ADA found that 39% of diabetics experienced an increase in insulin cost. This led to significant changes in time spent out of target blood glucose range, ER visits, etc.[3]



Adapted from *Spending on Individuals with Type 1 Diabetes and the Role of Rapidly Increasing Insulin Prices*,[4] page 2

Pharmacist's Role

Advocate

1. Assess your patient's needs using resources, such as a risk survey.
2. Use research and other informational tools to talk with other health care professionals.

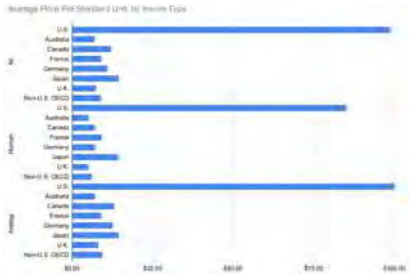
Educate

1. Encourage patients to talk about the cost of their insulin and other diabetic supplies.
2. Inform your patients of their options, such as discount cards and cost savings programs.

Prices Around the World

A price index analysis was conducted to study insulin in the US versus 7 other countries. Researchers categorized the various types of insulin and conducted a comparison of the pricing based on a volume, prescription status, timing, index, etc.

The prices of insulin the United States were significantly higher compared to other countries. Insulin costs in the US were always five to ten times higher than all other countries regardless of the insulin category.[5]



Adapted from *Comparing insulin prices in the United States to other countries*,[5] page 10

CONCLUSION

Insulin prices have nearly tripled since 2000, leading to inadequate access of a drug diabetics cannot live without. Pharmacists play an important role in this issue due to their ability to advocate for and educate their patients. They have the opportunity to promote affordable insulin options, while maintaining high-quality, patient-centered care.

Short term: talk with providers about cost-effectiveness and discuss cost-saving options with your patients.

Long term: increase the transparency of this issue by communicating with others, encouraging acknowledgement and changes in legislature.[6]

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4. Disclosure of financial relationships
    a. Rachel Grande and Katelyn Ewer declare that they do not have any current financial disclosures.

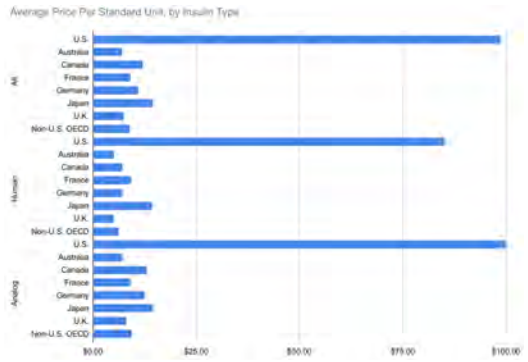
Learning Objectives:

1. Discuss the current status of insulin prices and how this issue affects pharmacy practice.
2. Apply research and other tools in practice when working with other health care professionals and patients.
3. Identify unique opportunities for pharmacy professionals to educate the public about the causes and solutions of rising insulin costs.

Self-Assessment Questions:

1. Diabetic supplies, such as syringes and needles, account for the largest cost to a type 1 diabetic patient per year.
    a. True
    b. False
2. The average price per unit of insulin in the US is significantly higher than the average price in other countries such as Canada and the UK
    a. True
    b. False
3. Which of the following is true regarding prescription savings programs?
    a. Savings programs are no cost to the providing pharmacy
    b. Patients are already aware of savings programs if they are available
    c. Some savings programs can be state specific
    d. Savings programs can only be used in conjunction with insurance
4. Which of the following is a reported consequence of insulin access barriers?
    a. Hyperglycemia/DKA
    b. Use of a discount card
    c. Skipping doses to make insulin last longer
    a. Provider chooses a cheaper insulin

Pharmacist's Role in Addressing the Rising Insulin Prices



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Framing a New Mindset About Drug Interactions Associated with Cannabis

Virginia Department of Health Professions Board of Pharmacy

Sarah T. Thomason, PharmD, BCPP, BCACP[1,2]; Samantha Taylor, PharmD Candidate[2]; Christina Tarasidis, PharmD Candidate[2]

1. Virginia Board of Pharmacy; 2. East Tennessee State University Gatton College of Pharmacy

Bill Gatton College of Pharmacy, East Tennessee State University

History of Cannabis in Virginia

1979
- The Virginia General Assembly (GA) eliminated prosecution for possession of marijuana if a written prescription was provided by a doctor for the treatment of cancer or glaucoma
- The law did not create a legal process for patients to obtain medical marijuana

2002
- Federal circuit court ruled doctor "recommendations" are protected by the First Amendment as a form of speech

2015
- The GA authorized possession of marijuana based on a doctor's recommendation and prohibited prosecution of patients with epilepsy who possessed cannabidiol (CBD) with a doctor's certificate for treatment

2018
- The GA broadened the authorization of medical marijuana use for any medical condition
- The law authorized the Virginia Board of Pharmacy (VBOP) to license pharmaceutical processors and established procedures for dispensing medical marijuana by a pharmacist
- The VBOP issued one pharmaceutical processor permit in each of Virginia's five health regions
- Patients were required to obtain a registered physician's recommendation and register with the VBOP

2019
- The GA passed three laws clarifying the right to use CBD and THC oils
- Physician assistants and nurse practitioners were authorized to register with the VBOP to write certifications for patients desiring medical marijuana
- The GA expanded the right to sell marijuana in edibles and other packaged forms

2020
- GA authorized the five authorized processors to establish five additional off-site cannabis facilities within their service area
- The GA decriminalized marijuana use

2021
- The GA legalized possession of up to one ounce of marijuana and authorized sales for non-medical use (2024)
- The Virginia Cannabis Control Authority (CCA) was created
- The GA enacted legislation allowing Virginians to grow up to four marijuana plants per household

2022
- The GA did not reenact the legislative framework for a retail market
- The GA eliminated the requirement for patients who had been certified by a registered practitioner to register with the VBOP

The "Why" Behind the Guidance Document

- Document developed by a state agency or staff that provides guidance of general applicability to the staff or public to interpret or implement statutes or the agency's rules or regulations
- The BOP enlisted board member Dr. Sarah Thomason and students with Operation Substance Use Disorders (American Pharmacists Association – Academy of Student Pharmacists) at the East Tennessee State University Bill Gatton College of Pharmacy to develop a guidance document regarding drug interactions with Cannabis

Operation Substance Use Disorders, APhA Academy of Student Pharmacists

- Virginia Code § 54.1-3319(A) requires a pharmacist to conduct a prospective drug review before each new prescription is dispensed or delivered to a patient or a person acting on behalf of the patient
- Review must include screening for potential drug therapy problems from drug-drug interactions
- As legal allowances for the use of cannabis increase, the approved the guidance document will assist pharmacists performing prospective drug reviews, including the screening for drug-drug interactions

Download the Guidance Document and references by scanning here

Focus on Drug Interactions

THC = tetrahydrocannabinol
CBD = cannabidiol

THC is a CYP1A2 inducer
Decreases serum concentrations of clozapine, duloxetine, naproxen, cyclobenzaprine, olanzapine, haloperidol, and chlorpromazine.

Warfarin
THC and CBD increase warfarin levels. Frequent cannabis use has been associated with increased INR.

Alcohol
May increase THC levels.

CBD is a potent inhibitor of CYP3A4
Increases serum concentrations of macrolides, calcium channel blockers, benzodiazepines, cyclosporine, sildenafil, antihistamines, haloperidol, antiretrovirals, and some statins.

CBD inhibits CYP2D6
Increases serum concentrations of SSRIs, tricyclic antidepressants, antipsychotics, beta blockers and opioids (including codeine and oxycodone).

CNS Depressants
Additive CNS depressant effects with alcohol, barbiturates and benzodiazepines.

Framing a New Mindset

- ✓ Educate pharmacists and the public on drug interactions with Cannabis
- ✓ Promote a change in mindset of pharmacists to ensure patients are screened for Cannabis use and educated on potential drug interactions is key to preventing drug-related harm
- ✓ Change the mindset and raise awareness for the general public regarding potential consequences for prescribed and recreational use of Cannabis when used with other medications

Student Observations and Analysis of Medication Errors in Community Pharmacy Settings

Martine Abouchabki, PharmD Candidate; Kyli Latimer, PharmD Candidate; Kathryn Ware, PharmD Candidate; Mary Douglass Smith, PharmD

Presbyterian College School of Pharmacy Clinton, South Carolina

BACKGROUND

The National Coordinating Council for Medication Error Reporting and Prevention defines a medication error as any preventable event that may cause or lead to inappropriate medication use or patient harm while the medication is in the control of the healthcare professional, patient, or consumer[1].

The Institute of Safe Medical Practices (ISMP) encourages reporting of medication errors, but it is not required[2]. South Carolina is a non-disclosable state that does not require reporting. While some corporate businesses may require reporting, there is currently no single program or organization available to mandate reporting of medication errors within community pharmacies.

The Pharmacy Practice Act states pharmacists must act in good faith and practice to self-report medication errors in order to help prevent future patient errors and harm[3].

OBJECTIVES

The primary objective of this study is to describe student-reported medication errors in the community pharmacy setting.

Secondary outcomes include measuring the potential harm to patients due to the medication error and determining plausible strategies to improve medication errors.

METHODS

- First year pharmacy students at Presbyterian College School of Pharmacy were assigned to a four hours per week, six week-long rotation at an affiliated community pharmacy (chain, grocery, independent, or other)
- Students were provided with an error reporting form on which they were required to verify up to 20 prescriptions at each rotation (Fig. 1)
- Students recorded medication errors as they were identified and inputted them into the online practice experience database
- Any errors found were de-identified of specific community pharmacy practice site information
- Researchers determined the potential harm of each error by using a scoring sheet to draw attention to the most common medication errors (Fig. 2a & 2b)

Student Reporting of Medication Errors

Errors were recorded based on the **type of error** and the **type of medication**. Pharmacy site was labeled as either chain, grocery, independent, or other.

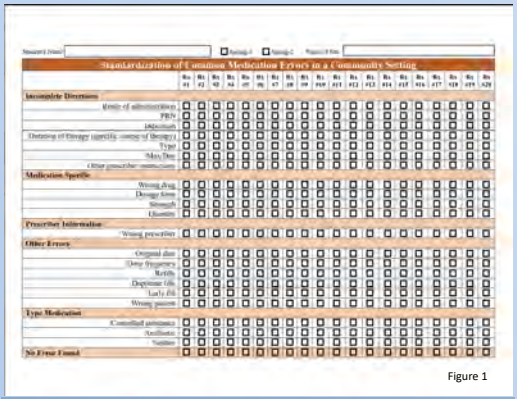


Figure 1

Potential Harm Scoring

Researchers used a standardized form to interpret the "potential patient harm" value by totaling the number of points given per prescription.

Figure 2a

Standardization of Common Medication Errors in a Community Setting

	Potential Patient Harm	Potential Patient Harm - Controls	Potential Patient Harm - Abx
Incomplete Directions			
ROA	1	2	1
PRN	2	3	2
Indication	1	2	1
DOT (specific course of therapy)	2	2	2
Typo	1	1	1
Max/Day	1	2	1
Other prescriber instructions	1	1	1
Medication Specific			
Wrong drug	4	4	4
Dosage form	2	2	1
Strength	3	3	2
Quantity	2	2	2
Prescriber Information			
Wrong prescriber	0	1	0
Other Errors			
Original Date	0	1	0
Dose Frequency	1	2	1
Refills	1	1	1
Duplicate Fills	1	3	1
Early Fill	N/A	2	N/A
Wrong patient	4	4	4

Key: ROA = route of administration, DOT = duration of therapy

Figure 2b

Potential Patient Harm due to Medication Errors in a Community Setting

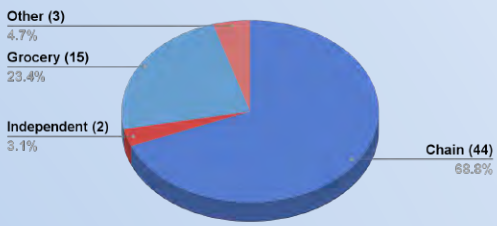
Level	Reference	Description
0	No Harm	No potential for patient harm or change in patient level or length of care. No additional actions necessary from prescriber.
1	Minor	There was a potential for minor, non-life threatening, temporary harm that may or may not require additional communication or medication adjustments from prescriber. Increase in care/treatment is expected to be < 1 day.
2	Moderate	There was a potential for minor, non-life threatening, temporary harm that would require additional communication or medication adjustments from prescriber. Increase in care/treatment is expected to be < 1 day.
3	Serious	There was a potential for major, non-life threatening, temporary harm, or minor permanent harm that would require prescriber intervention, additional medications, emergency care, and/or administration of an antidote. Increase in care is expected to be > 1 day.
4	Severe	There was a potential for life threatening or mortal harm, or major permanent harm that would require emergency care and hospitalization, and/or administration of an antidote. Increase in care is substantial and expected to be > 1 day.

Scoring for Multiple Areas Hit:
If 1 and 2 then it would be a 3
2 and a 2 then it would be a 2 Squared or 3

RESULTS

- 445 prescriptions were evaluated from 23 different community pharmacies
- 47 prescriptions had one or more errors
- A total of 64 errors were found from the 47 prescriptions
- The most common types of errors overall were a result of incorrect typing (17%), wrong indication (13%), wrong drug (13%), and wrong quantity (11%).

Number of Prescription Errors by Location



Top 5 Errors in Each Setting and Average Harm Rating

Chain	• Incorrect typing (n=7) • Incorrect drug (n=6) • Incorrect quantity (n=6) • Incorrect strength (n=5) • Incorrect refills (n=4) • Incorrect early fills (n=4)	Average Harm Rating (per prescription with error) = **2.3**
Independent	• Incorrect typing (n=1) • Incorrect dosage form (n=1)	Average Harm Rating (per prescription with error) = **1.5**
Grocery	• Incorrect indication (n=7) • Incorrect max drug/day (n=6) • Incorrect typing (n=2) • Incorrect drug (n=1) • Wrong prescriber (n=1)	Average Harm Rating (per prescription with error) = **1.1**
Other	• Incorrect typing (n=1) • Incorrect drug (n=1) • Incorrect quantity (n=1)	Average Harm Rating (per prescription with error) = **2.3**

Statistical Analysis

Average Harm Comparison with Chain Pharmacies

Independent	P-value: **0.19**
Grocery	P-value: **< 0.01**
Other	P-value: **0.47**

An analysis was conducted using a T-Test to determine the statistical significance of the average harm when comparing chain pharmacies to independent, grocery, and other pharmacies. A one-tailed α-level was set for <0.05 as statistically significant.

CONCLUSION

- The majority of errors were observed and recorded in **chain pharmacies,** making this the comparator.
- The highest potential harm rating was recorded for **chain and other pharmacies.**
- Statistical significance was achieved for the comparison of the average harm ratings between chain and grocery pharmacies.
- Limitations of the study include a small sample size for independent and other pharmacies, causing an inability to reach a statistical significance. Additional limitations of this study include the fact that data was primarily collected from the upstate region of South Carolina and may not represent community practices across the entire state.
- Factors that can influence medication dispensing errors in the community setting include:
  - Pharmacist and technician overload/burnout
  - Look-alike and sound-alike medications
  - Lack of staff and interruptions
  - Illegible handwritten prescriptions
- Further education and training development, sufficient staffing, and ideal working conditions should be considered in order to protect patient safety and reduce error rates in community pharmacy.

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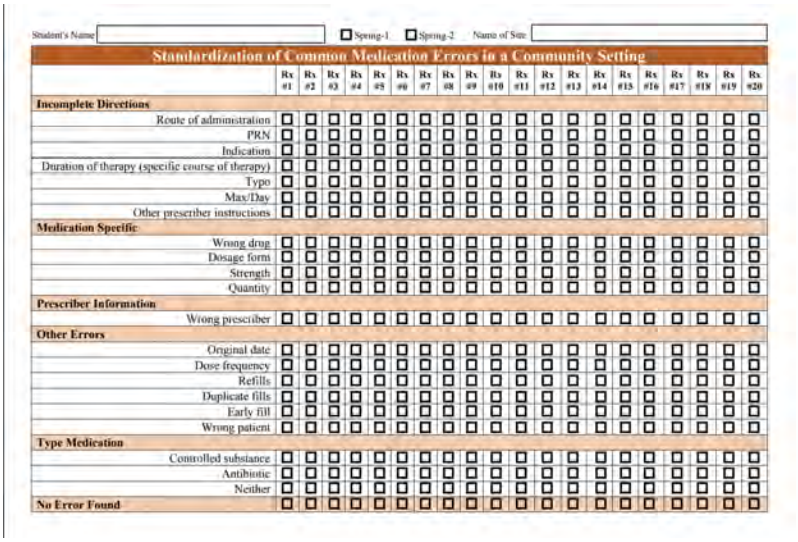
- Errors were recorded based on the type of error and the type of medication. Pharmacy site was labeled as either chain, grocery, independent, or other.
- Researchers used a standardized form to interpret the “potential patient harm” value by totaling the number of points given per prescription.



Student's Name ☐ Spring-1 ☐ Spring-2 Name of Site

Standardization of Common Medication Errors in a Community Setting

	Rx #1	Rx #2	Rx #3	Rx #4	Rx #5	Rx #6	Rx #7	Rx #8	Rx #9	Rx #10	Rx #11	Rx #12	Rx #13	Rx #14	Rx #15	Rx #16	Rx #17	Rx #18	Rx #19	Rx #20
Incomplete Directions																				
Route of administration	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
PRN	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Indication	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Duration of therapy (specific course of therapy)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Typo	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Max/Day	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Other prescriber instructions	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Medication Specific																				
Wrong drug	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Dosage form	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Strength	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Quantity	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Prescriber Information																				
Wrong prescriber	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Other Errors																				
Original date	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Dose frequency	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Refills	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Duplicate fills	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Early fill	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Wrong patient	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Type Medication																				
Controlled substance	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Antibiotic	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Neither	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
No Error Found	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

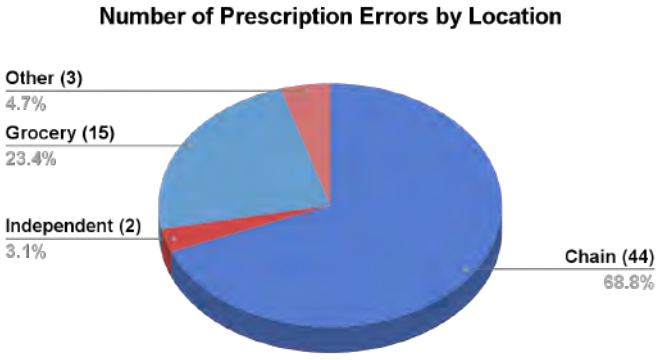
Standardization of Common Medication Errors in a Community Setting

	Potential Patient Harm	Potential Patient Harm - Controls	Potential Patient Harm - Abx
Incomplete Directions			
ROA	1	2	1
PRN	2	3	2
Indication	1	2	1
DOT (specific course of therapy)	2	2	2
Typo	1	1	1
Max/Day	1	2	1
Other prescriber instructions	1	1	1
Medication Specific			
Wrong drug	4	4	4
Dosage form	2	2	1
Strength	3	3	2
Quantity	2	2	2
Prescriber Information			
Wrong prescriber	0	1	0
Other Errors			
Original Date	0	1	0
Dose Frequency	1	2	1
Refills	1	1	1
Duplicate Fills	1	3	1
Early Fill	N/A	2	N/A
Wrong patient	4	4	4

Key: ROA = route of administration, DOT = duration of therapy

Results

- 445 prescriptions were evaluated from 23 different community pharmacies
- 47 prescriptions had at least one or more errors
- A total of 64 errors were found from the 47 prescriptions
- The most common types of errors overall were a result of incorrect typing (17%), wrong indication (13%), wrong drug (13%), and wrong quantity (11%).



Top 5 Errors in Each Setting and Average Harm Rating		
Chain	• Incorrect typing (n=7) • Incorrect drug (n=6) • Incorrect quantity (n=6) • Incorrect strength (n=5) • Incorrect refills (n=4) • Incorrect early fills (n=4)	Average Harm Rating (per prescription with error) = **2.3**
Independent	• Incorrect typing (n=1) • Incorrect dosage form (n=1)	Average Harm Rating (per prescription with error) = **1.5**
Grocery	• Incorrect indication (n=7) • Incorrect max drug/day (n=6) • Incorrect typing (n=2) • Incorrect drug (n=1) • Wrong prescriber (n=1)	Average Harm Rating (per prescription with error) = **1.1**
Other	• Incorrect typing (n=1) • Incorrect drug (n=1) • Incorrect quantity (n=1)	Average Harm Rating (per prescription with error) = **2.3**

Conclusions

- The majority of errors were observed and recorded in chain pharmacies, making this the comparator.
- The highest potential harm rating was recorded for chain and other pharmacies.
- Statistical significance was achieved for the comparison of the average harm ratings between chain and grocery pharmacies.
- Limitations of the study include a small sample size for independent and other pharmacies causing a lack of power to be able to reach a statistical significance. Additional limitations of this study include that data was primarily collected from the upstate region of South Carolina and may not represent community practices across the entire state.
- Factors that can influence medication dispensing errors in the community setting include:
    - Pharmacist and technician overload/burnout
    - Look-alike and sound-alike medications
    - Lack of staff and interruptions
    - Illegible handwritten prescriptions
- Further education and training development, sufficient staffing, and ideal working conditions should be considered in order to protect patient safety and reduce error rates in community pharmacy.

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Evaluation of Pharmacist and Patient Perspectives on Pharmacist Prescribed Hormonal Contraceptives in South Carolina

Tate Owens, PharmD; Patricia Fabel, PharmD, BCPS; Tessa Hastings, PhD; Abby Davies, PhD Candidate; Gene Reeder, PhD

University of South Carolina College of Pharmacy, Kennedy Pharmacy Innovation Center, Hawthorne Pharmacy

Background

- According to Healthy People 2030, increasing access to contraception is a priority strategy for the reduction of unintended pregnancies.[1]
- In May 2022, the Pharmacy Access Act was passed in South Carolina that allow pharmacists to administer or prescribe hormonal contraceptives.[2]
- As of August 2022, twenty-four states and the District of Columbia have a state protocol or collaborative practice agreement in place that allows pharmacist to prescribe or administer contraceptives.[3]
- The Board of Medical Examiners and the Board of Pharmacy issued a written joint protocol in November 2022.[4]

Objectives

- To determine patient and pharmacist perceptions of pharmacist-prescribed hormonal contraceptives after the passing of the South Carolina Pharmacy Access Act in May 2022.

Methods

- Two cross-sectional surveys were used to identify pharmacist and patient perceptions of pharmacist-prescribed hormonal contraceptives.
- Pharmacist Survey →
  - Distributed via email by the South Carolina Board of Pharmacy (SC BOP) in November 2022.
  - Demographics, interest/comfort in prescribing hormonal contraceptives, and barriers to implementation were collected.

- Patient Survey →
  - Distributed via survey flyer/message at Hawthorne Pharmacy's eight locations.
  - Female patients <50 years old with a prescription for a hormonal contraceptive were eligible to complete the survey.
  - Demographics, interest, willingness to pay, and reason for seeing a pharmacist to prescribe their hormonal contraceptive were assessed.

- Results are summarized using descriptive statistics.

Results

Pharmacist Survey →

Table 1: Pharmacists' perceived barriers to pharmacist-prescribed hormonal contraceptives at their primary practice site

Question	Not at all	A Little	Moderate	Very	Extremely
Lack of education and training prescribing hormonal contraceptives	14.05%	18.38%	27.57%	**17.84%**	**22.16%**
Limited access to the patient's electronic health record	13.04%	7.07%	19.02%	**24.46%**	**36.41%**
Lack of privacy in my practice setting	**38.04%**	**11.41%**	21.74%	11.96%	16.85%
Personal or religious beliefs	**69.95%**	**12.57%**	8.74%	3.28%	5.46%
Lack of time	15.14%	10.81%	18.38%	**22.70%**	**32.97%**
Contraception is a sensitive topic	**42.86%**	**21.98%**	20.88%	4.95%	9.34%
Lack of drug information resources and clinical decision support tools specific to hormonal contraceptives that are readily available during patient consults	**21.86%**	**25.14%**	23.50%	13.11%	16.39%
Lack of (sufficient) reimbursement	10.99%	9.34%	26.37%	**19.23%**	**34.07%**
Patient's ability of pay or their lack of insurance coverage	**20.44%**	**19.34%**	29.83%	16.02%	14.36%
Insufficient support staff to prescribe hormonal contraceptives	11.48%	10.93%	24.59%	**19.67%**	**33.33%**
Uncertainty regarding scope of practice and liability	8.33%	14.44%	25.00%	**18.33%**	**33.89%**
Limited support from medical providers in the community	9.29%	14.75%	30.06%	**22.40%**	**22.95%**
Patients do not want a pharmacist to prescribe their birth control	**28.33%**	**26.11%**	24.44%	10.00%	11.11%
Decision maker at my practice site is not supportive	**50.00%**	**15.73%**	21.91%	5.62%	6.74%
Unclear information regarding the law and its requirements	**12.71%**	**30.39%**	23.20%	13.81%	19.89%
Fear of women neglecting recommended health care (i.e. pap smear)	16.02%	15.47%	27.62%	**16.57%**	**24.31%**

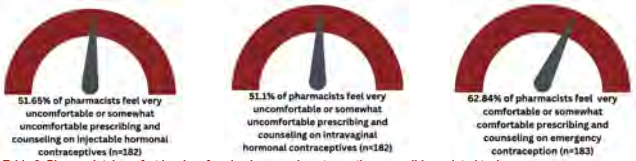


Table 2: Pharmacists' comfort level performing hormonal contraceptive prescribing-related tasks

Question	Very uncomfortable/ Somewhat uncomfortable	Very comfortable/ Somewhat comfortable
Utilizing a patient self-screening risk assessment prior to prescribing hormonal contraceptives to patients	42.86%	**57.14%**
Identifying and referring patients who may be subject to abuse to the appropriate social services agency	**57.69%**	42.30%
Administering injectable hormonal contraceptives	**52.19%**	47.81%
Applying the United States Medical Eligibility Criteria for Contraceptive Use to determine patient eligibility for hormonal contraceptives	**63.88%**	36.11%
Counseling patients on recommended annual medical visits, health tests, and screenings	26.37%	**73.62%**
Counseling patients on the effectiveness and availability of long-acting reversible contraceptives as an alternative to self-administered hormonal contraceptives or injectables	38.66%	**60.99%**
Providing a patient with a written explanation as the why you did not dispense a hormonal contraceptive	50.00%	50.00%
Providing patients with information on the SC Medicaid Program and how to apply for benefits	**60.77%**	39.23%
Counseling patients on the effectiveness of abstinence in preventing pregnancy and contracting a sexually transmitted infection or disease	37.02%	**62.98%**
Counseling patients on the need for backup contraception	28.49%	**71.51%**
Counseling patients on when to seek emergency medical attention related to the use of hormonal contraceptives	32.60%	**67.41%**
Counseling patients on the risk of contracting a sexually transmitted infection or disease, along with ways to reduce the risk of contraction	27.48%	**72.52%**

Results

Patient Survey →

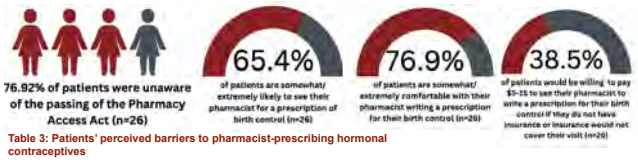
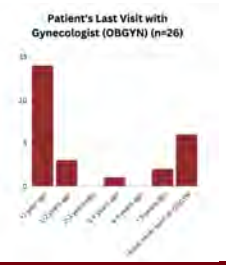


Table 3: Patients' perceived barriers to pharmacist-prescribing hormonal contraceptives

Question	Strongly disagree/ somewhat disagree	Neither agree nor disagree	Strongly agree/ somewhat agree
I have trouble obtaining my birth control due to the cost of visiting my physician.	**69.23%**	7.69%	23.08%
Pharmacists are easier to access.	3.85%	23.08%	**73.08%**
I do not currently have or see a primary care provider/OBGYN/nurse practitioner/physician's assistant.	**84.61%**	0.00%	15.39%
Pharmacists have the knowledge to write prescriptions for medications.	0.00%	7.69%	**92.31%**
I do not currently have prescription drug insurance.	**84.61%**	0.00%	15.39%
My prescription insurance does not cover my birth control.	**84.62%**	0.00%	15.38%
I have transportation issues.	**96.16%**	3.85%	0.00%
I have trouble getting an appointment to see my doctor.	**53.84%**	15.38%	30.77%
Pharmacists should be allowed to write prescriptions for other medications besides birth control.	7.69%	15.38%	**76.93%**



Conclusion

- Based on the pharmacists' survey results, half of pharmacists remain undecided on whether or not to offer this service in their pharmacy. Majority of concerns mentioned included lack of time, insufficient support staff, liability, and the need for additional training.
- Based on the patients' survey results, majority of patients feel comfortable seeing their pharmacist to prescribe their birth control, and they believe pharmacists have the knowledge to write prescriptions for medications.
- Only 26 participants completed the patient survey; therefore, additional data collection is needed to provide a more accurate representation of the patient population in South Carolina.

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Disclosures
Authors of this presentation have the following to disclose concerning possible financial or personal relationships with commercial entities that may have a direct or indirect interest in the subject matter of this presentation:
Owens: none Fabel: none Hastings: none Davies: none Reeder: none

Acknowledgements

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HAWTHORNE PHARMACY & MEDICAL EQUIPMENT

National Association of Boards of Pharmacy Annual Meeting, May 10th-12th 2023, Nashville, TN

Methods

- Two cross-sectional surveys were used to identify pharmacist and patient perceptions of pharmacist-prescribed hormonal contraceptives.
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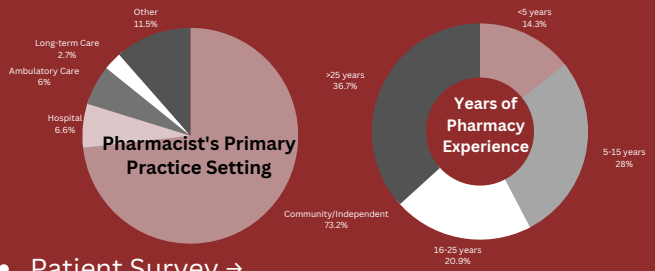

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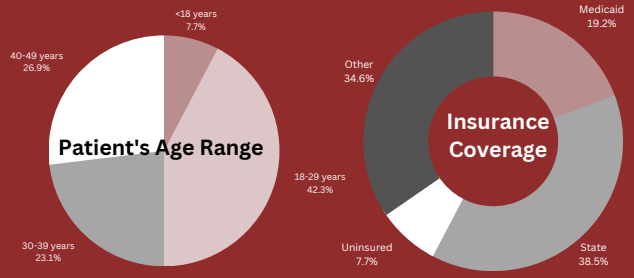

- Results are summarized using descriptive statistics.

Assessment Questions

1. Which of the following barriers did the majority of pharmacists in South Carolina feel very likely or extremely likely to negatively impact pharmacists prescribing hormonal contraceptives?
   a. Patients do not want a pharmacist to prescribe their birth control.
   b. Limited access to patients' electronic health records.
   c. Lack of privacy in their practice setting.
   d. Personal or religious beliefs.
2. Which of the following do the majority of pharmacists in South Carolina feel comfortable doing as it relates to prescribing hormonal contraceptives?
   a. Counseling patients on recommended annual medical visits, health tests, and screenings.
   b. Administering injectable hormonal contraceptives.
   c. Providing patients with information on the South Carolina Medicaid program and how to apply for benefits.
   d. Identifying and referring patients who may be subject to abuse to the appropriate social services agency.
3. Which of the following statements is true based on the majority of patients' perspectives on pharmacists prescribing birth control?
   a. Patients in South Carolina have transportation issues.
   b. Patients in South Carolina believe pharmacists have the knowledge to write prescriptions for medications.
   c. Patients in South Carolina have prescription drug insurance that does not cover their birth control.
   d. Patients in South Carolina have trouble getting an appointment to see their doctor.

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Owens: none Fabel: none Hastings: none Davies: none Reeder: none

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Evaluation of Pharmacist and Patient Perspectives on Pharmacist-Prescribed Hormonal Contraceptives in South Carolina

Tate Owens, PharmD
Patricia Fabel, PharmD, BCPS
Tessa Hastings, PhD
Abby Davies, PhD Student
Gene Reeder, PhD

UNIVERSITY OF SOUTH CAROLINA
College of Pharmacy

Background

- In May 2022, the Pharmacy Access Act was passed in South Carolina that allows pharmacists to administer or prescribe hormonal contraceptives.
- The Board of Medical Examiners and the Board of Pharmacy issued a written joint protocol in November 2022.

1. Pharmacy Access Act. South Carolina Pharmacy Practice Act § 40-43-210 (2022). Accessed August 8, 2022. https://www.scstatehouse.gov/sess124_2021-2022/bills/628.htm
2. South Carolina Joint Protocol for Pharmacists Administering and Dispensing Hormonal Contraception. Accessed February 2, 2023. https://llr.sc.gov/bop/news/2022/Pharmacy-Access-Act-Protocol.pdf

Study Objective

To determine patient and pharmacist perceptions of pharmacist-prescribed hormonal contraceptives after the passing of the South Carolina Pharmacy Access Act in May 2022.

Poster Objectives

1. Identify potential barriers to implementing pharmacist prescribing of hormonal contraceptives into practice in South Carolina from the pharmacists' perspective.
2. Describe processes related to hormonal contraceptive prescribing that pharmacists may feel uncomfortable with performing.
3. Discuss potential barriers patients in South Carolina believe they may encounter when accessing their health care related to hormonal contraceptives.

Results - Pharmacist Survey

of pharmacists were aware Governor McMaster signed the Pharmacy Access Act in May prior to completing this survey (n=188)

of pharmacists are interested or very interested in prescribing hormonal contraceptives (n=188)

of pharmacists are undecided in implementing pharmacist prescribing of birth control into their practice (n=187)

Majority of pharmacists feel the following are very likely or extremely likely to impact implementation:

- Lack of education and training on prescribing birth control.
- Limited access to the patient's electronic health record.
- Time constraints.
- Lack of sufficient reimbursement.
- Insufficient support staff.
- Uncertainty regarding scope of practice and liability.
- Limited support from medical providers.
- Fear of women neglecting recommended health care.

Majority of pharmacists feel somewhat or very comfortable performing the following as it relates to prescribing:

- Utilizing a patient self-screening risk assessment.
- Counseling patients on recommend annual medical visits, health tests, and screenings.
- Counseling patients on long-acting reversible contraceptives, effectiveness of abstinence, need for back up contraception, when to seek emergency medical attention, and risk of contracting a sexually transmitted infection.

Results - Patient Survey

76.92% of patients were unaware of the passing of the Pharmacy Access Act (n=26)

of patients are somewhat/ extremely likely to see their pharmacist for a prescription of birth control (n=26)

of patients are somewhat/ extremely comfortable with their pharmacist writing a prescription for their birth control (n=26)

of patients would be willing to pay $5-15 to see their pharmacist to write a prescription for their birth control if they do not have insurance or insurance would not cover their visit (n=26)

Majority of patients somewhat or strongly agree with the following statements:

- Pharmacists are easier to access.
- Pharmacists have the knowledge to write prescriptions for medications.
- Pharmacists should be allowed to write prescriptions for other medications besides birth control.

Majority of patients somewhat or strongly disagree with the following statements:

- I have trouble obtaining my birth control prescription due to the cost of visiting my provider.
- I do currently see a PCP/OBGYN/NP/PA.
- I do not currently have prescription drug insurance.
- My prescription insurance does not cover my birth control.
- I have transportation issues.
- I have trouble getting an appointment to see my doctor.

Partnering Together to Expand Team-Based Care in Rural South Carolina

Patricia H. Fabel, PharmD[1]; Kayce M. Shealy, PharmD[2]; Cecily V. DiPiro, PharmD[3]; Michelle James, MSW[4]; Courtney Brightharp, DHSC[4]; Kristian Myers, MPH[4]; and Gene Reeder, PhD[1]

[1]University of South Carolina College of Pharmacy, [2]Presbyterian College School of Pharmacy, [3]SCPhA, [4]SC DHEC

BACKGROUND

- The South Carolina (SC) Pharmacy Association (SCPhA) was awarded a 5-year grant from the SC Department of Health and Environmental Control (DHEC) in 2018.
- The grant was to promote and expand team-based care in SC by developing a training program, participating in an interdisciplinary learning collaborative, contributing to a state-wide change package, and conducting pilots (or demonstration projects) that integrated pharmacists into primary care practices for 2 days a week for 12 weeks.

OBJECTIVE

- To describe the impact of integrating pharmacists into rural SC primary care practices.

METHODS

- SCPhA and DHEC partnered to conduct 3 team-based care pilots in rural SC between August 2021 and September 2022.
- Pharmacists and medical practices were identified through existing relationships.
- Locations of the pilots are depicted in Figure 1. Practice type, services provided, and data collected are in Figure 2.
- The interdisciplinary learning collaborative and change package resources were used to customize the pilot to the specific practice and pharmacist.
- Descriptive statistics were used to portray the sustainability and expansion of team-based care.

FIGURE 1: Location of Pilots/Demonstration Projects

FIGURE 2: Methods for 12-Week Pilots/Demonstration Projects

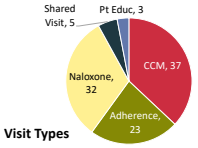
Practice Identification	Pharmacist Services	Data Collection
• Rural Health Center & Community Pharmacy • FQHC & Pharmacy • Independent Practice & Community Pharmacy	• AWV • CCM • CMR • Diabetes Education • Drug Information • Immunizations • Other	• RPh Time & Salary • Type of Visit • Billing Codes • MRPs • Immunization Rates • Quality Metrics • Patient Clinical Status

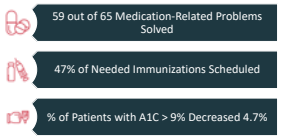
AWV = annual wellness visit; CCM = chronic care management; CMR = comprehensive medication review; RPh = registered pharmacist; MRPs = medication-related problems

RESULTS

Rural Health Center & Community Pharmacy

- 92 patient visits with 79 unique patients
- 37% of pharmacist salary generated
- Barriers experienced by the pharmacist included getting patients to answer the phone and determining what billing code to use for services provided to non-CCM patients.

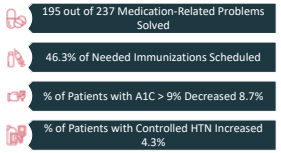


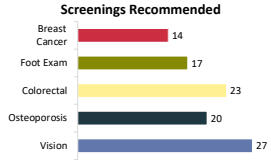


Post Pilot: Practice hired TWO full-time pharmacists

Federally Qualified Health Center (FQHC) & Pharmacy

- 68 patient visits – 85.3% (58) were AWV
- 42% of pharmacist salary generated
- Primary barriers were patients not showing up for appointments and remote patient monitoring not being separate billable codes within an FQHC.

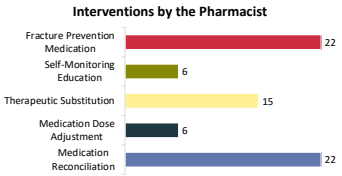


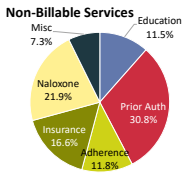


Post Pilot: Pharmacist moved into clinic full time & added a second part-time pharmacist

Independent Practice & Community Pharmacy

- 89 CCM visits – 63.6% billed at a higher rate
- % of Patients with A1C > 9% decreased 1.6%
- > 20 hours spent on non-billable services





Post Pilot: Currently collaborating on vaccine and remote patient monitoring projects

KEY POINTS

- Integrating pharmacists into primary care may close gaps in care.
- Policy changes are needed regarding payment for pharmacist services within primary care for these models to be sustainable and expand beyond the Medicare population.

DISCUSSION

Limitations

- The statistical significance of the data displayed cannot be determined.
- The uniqueness of each practice and the individualized implementation approach to the pilots make it difficult to aggregate data.

Conclusions

- Integrating a pharmacist into primary care may close gaps in care for patients with chronic disease in rural SC.
- Funding to support the start-up expenses incurred from both rural practices and community pharmacies may be necessary.
- Clarity is needed regarding pharmacist's scope of practice and collaborative services in SC.
- Revenue-generating services are currently limited to the Medicare population due to existing health care reimbursement policies and state practice laws.

ACKNOWLEDGMENTS

Financial support for this project was provided by a grant from the South Carolina Department of Health and Environmental Control.

To access a copy of the 4C Collaborative Change Package, scan the QR code.

Pharmacy and Practice Partners

- Carrie Lynch, PharmD, and Liz Man
- Paul Edwards, PharmD, and Courtney Kaye, PharmD
- Carmon Monts, PharmD, and Sara Ballentine, MHA

Disclosures: Authors of this presentation have no financial or personal relationships with commercial entities relevant to this presentation to disclose.

National Association of Boards of Pharmacy; May 10th -12th, 2023; Nashville, Tennessee

Impacts of Active Learning in a Pharmaceutical Calculations Course

Olgaaurora Rodriguez[1], Jeff Davis[1], Dr. Melanie Reinhardt[1], Dr. Martin D. Perry[1]

[1]College of Pharmacy, University of Arkansas for Medical Science, 4301 West Markham St, Little Rock, AR 72205, USA

Abstract

UAMS has committed to active learning (AL) as the predominant mode of content delivery in the Vision 2029 plan. Evidence-based strategies require learners to construct knowledge and meaning resulting in long-term retention as opposed to short-term memorization and superficial understanding. One such strategy is Process Oriented Guided Inquiry Learning. This pedagogical approach uses team-based, guided-inquiry activities designed around a learning cycle while also encouraging the development of process skills such as critical thinking, communication, and self-assessment. Working in this learning environment allows students to be exposed to multiple perspectives, confront commonly held misconceptions, and results in a higher likelihood of understanding and retention. Several student-centered learning activities were developed for select topics in a P1 Pharmaceutical Calculations course and implemented during the 2022 Fall Semester. Exam scores on each of these topics were compared to the previous year's cohort on the same topics taught using traditional instruction. The overall results show improvement in several individual topics, as well as a 16% increase in the final exam scores on these topics where active learning was used.

Materials

Active learning materials were created in an AL format on the following Pharmaceutical Calculations topics:

- **Aliquots, % Error**
- **Conversions, Metric**
- **Dimensional analysis**
- **Isotonicity**
- **Osmolarity, mEq, mmol**
- **Percent strength, % W/V, % W/W**

Methods

- **These activities were developed and reviewed by a panel group consisting of the Pharmaceutical Calculations course coordinator, a POGIL expert, and the summer research student.**
- **Active learning was implemented with the Fall 2022 P1 Cohort (experimental group) in Pharmaceutical Calculations in place of traditional instruction on these topics.**
- **No additional changes were made to the course with five class exams, including a comprehensive final exam, administered to assess performance.**
- **Comparison to the Fall 2021 P1 Cohort's (control group, traditional instruction) exam performances on these same topics was examined.**
- **Comparison between each cohort's overall exam performances was also noted.**
- **Note: No significant differences exist in cohort demographics and prerequisite knowledge.**

Results

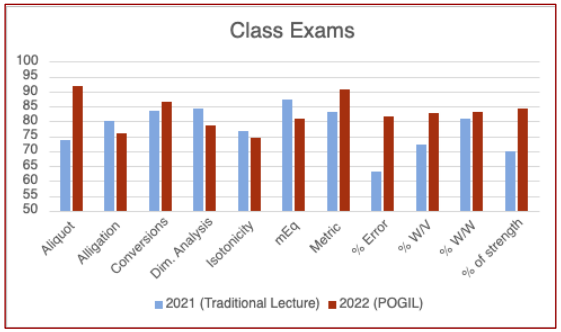


Figure 1. Class averages are shown on similar exam questions that covered material that was taught in the traditional lecture style in 2021 and using AL in 2022.

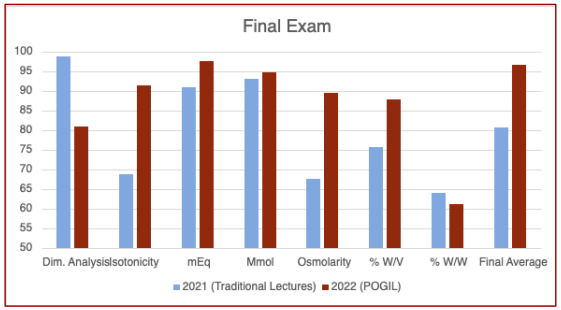


Figure 2. Student performance in subject areas on the final cumulative exam represented as a percentage.

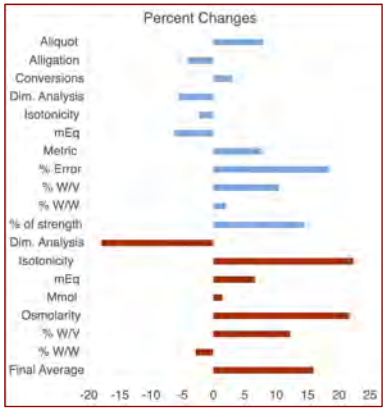


Figure 3. Percent changes between student performance in specific domains after implementation of the AL activities into the curriculum. Class exams are shown in blue and Final Exam performance is shown in red.

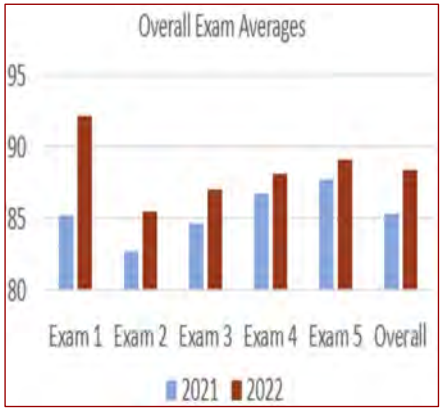


Figure 4. Differences in student performance on class exams and overall class scores before and after the implementation of AL activities represented as a percentage.

Discussion and Conclusions

- **Substantial improvements in student performance were noted in several topics of pharmaceutical calculations.**
- **Some topics showed no improvement upon the initial testing, but on the cumulative final exam yielded higher scores than the previous year, indicating better long-term retention in topics such as milliequivalents and isotonicity.**
- **The one significant outlier in performance was the topic of dimensional analysis. The instructional activity on this topic occurred on the second day of class for the new P1 cohort. A non-pharmacy activity could be used during P1 orientation to better acquaint students with expectations and reduce apprehension.**
- **With the implementation of student-centered learning activities, performance shows a clear positive trend, notably in better long-term retention and improved understanding and application of the material, with a large improvement on the cumulative final exam.**

References

- **Pharmaceutical Calculation 4th Edition Joel I. Zatz and Maria Glaucia Teixeria)**
- **Stockton, S. (2021). Stoklosa and Ansel's Pharmaceutical Calculations (16th ed.). Wolters Kluwer.**
- **Anatomy & Physiology: A Guided Inquiry**

  Brown, P. Lancaster, PA: The POGIL Project; Dubuque, IA: Kendall Hunt, 2021.
- **Chemistry: A Guided Inquiry. 8th Ed., Part 1**

  Moog, R., J. Farrell and G. Webster. Lancaster, PA: The POGIL Project; Dubuque, IA: Kendall Hunt, 2021.

Acknowledgements

Facilities and funding were provided by the College of Pharmacy 2022 Summer Research Program.

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Interested in learning more about active learning?

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Marty Perry and Olgaaurora Rodriguez declare that they do not have any current financial disclosures.

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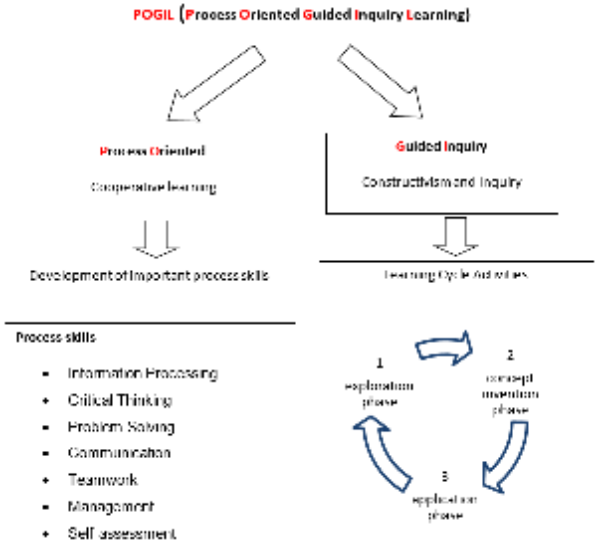
Impacts of Active Learning in a Pharmaceutical Calculations Course

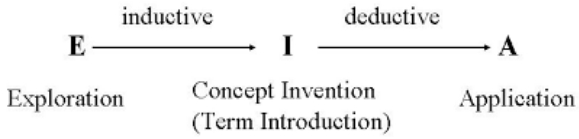
Learning Objectives

- Describe the types of questions and the order of these questions in an activity that follows the learning cycle.
- Describe the benefits students experience when engaged in active learning during class.
- Interpret the statistical data collected from students who were engaged in active learning compared to those who received traditional lectures.

Methods



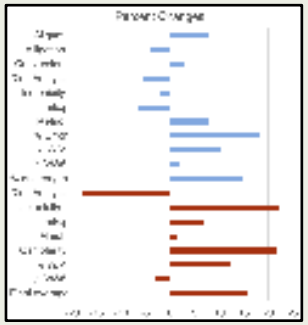
Active learning activities for the experimental group were created using the learning cycle of POGIL. This allowed students in the experimental group to practice and gain process skills like the ones mentioned in the image above.



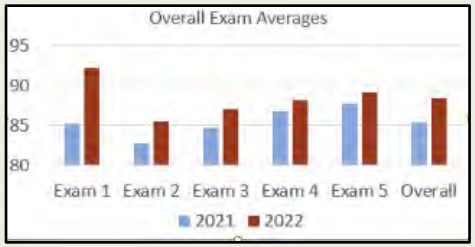
The types of questions and the order they were arranged in the active learning activities, were done with the intent to facility the POGIL learning cycle for the students. By providing “E”, “I”, and ”A” questions, students could work in their groups of four to develop and solidity new pharmaceutical calculations concepts.

Results

- The one significant outlier in performance was the topic of dimensional analysis. The instructional activity on this topic occurred on the second day of class for the new P1 cohort. A non-pharmacy activity could be used during P1 orientation to better acquaint students with expectations and reduce apprehension.
- With the implementation of student-centered learning activities, performance shows a clear positive trend, notably in better long-term retention and improved understanding and application of the material, with a large improvement on the cumulative final exam.



Percent changes between student performance in specific domains after implementation of the AL activities into the curriculum. Class exams are shown in blue and Final Exam performance is shown in red.



Differences in student performance on class exams and overall class scores before and after the implementation of AL activities represented as a percentage.

Board Authorized Protocols:
Framing a New Practice Mindset in Kentucky

Eric Mackin, PharmD Candidate 2025; Kyle Bryan, PharmD; Bailey Conley, PharmD Candidate 2023; Brooke Hudspeth, PharmD, CDCES; Adrienne Matson, PharmD, BCPS; Patricia R. Freeman, RPh, PhD, FAPhA, FNAP

University of Kentucky College of Pharmacy, Center for the Advancement of Pharmacy Practice, Lexington, Kentucky

BACKGROUND

- Through population-specific collaborative practice agreements known as Board Authorized Protocols, Kentucky (KY) pharmacists are authorized to provide protocol-driven care for a wide variety of conditions. Authorized protocols are available for download on the Board's website.[1]
- Before a pharmacist can utilize a protocol to provide care and initiate the dispensing of prescriptions, it must be fully executed (i.e., signed and dated by both the collaborating prescriber and pharmacist(s)).
- This study seeks to describe the extent to which protocols are implemented in KY pharmacies and the relationship between implemented protocols and medically underserved areas (MUAs).

METHODS

- Kentucky Board of Pharmacy staff disseminated a survey via email to the 1337 resident pharmacies to gather information on fully executed protocols.
- Protocol utilization data were collected via mail, email, or fax in Fall 2022 and entered in Excel by Board staff, who provided the data to our team for analysis.
- The Health Resources and Services Administration (HRSA) database was accessed in Sept 2022 to determine MUAs in KY. A choropleth map was created to visualize the relationship between number of outpatient pharmacies per 100,000 residents, the number of pharmacies with fully executed protocols, and counties with MUA status.

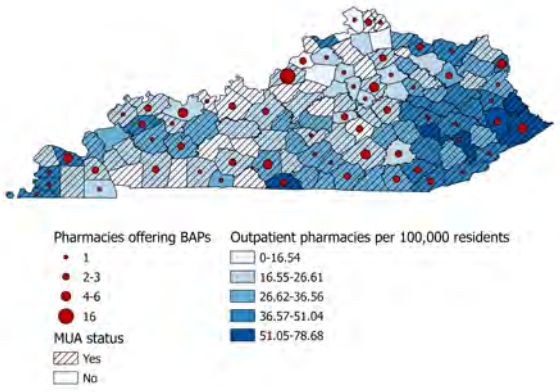
RESULTS

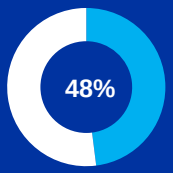
- 857 pharmacies responded for a 64% response proportion.
- 16% (134/857) of pharmacies reported having at least one fully executed protocol.
    - 51% were independent community pharmacies and 45% were chain community pharmacies.
- Almost two-thirds (65%) of responding pharmacies reported having a nirmatrelvir/ritonavir COVID-19 treatment protocol while protocols for other conditions were reported less commonly (Table 1).
- Pharmacies in 60 (50%) of KY's 120 counties reported having an executed protocol of some type (Figure 1).
- 80% (96/120) of Kentucky counties are designated MUA by HRSA
    - 48% (46/96) of these have a pharmacy with an executed protocol

College of Pharmacy | **Beyond** the Script

Only **16%** of Kentucky outpatient pharmacies report having a fully executed board authorized protocol

Figure 1. Availability of Pharmacist Care Services in Medically Underserved Areas (MUAs) in Kentucky via Board Authorized Protocols (BAPs)





Less than one-half (48%) of Kentucky counties designated as MUAs have a pharmacy reporting an executed protocol

Questions? Contact the UK Center for the Advancement of Pharmacy Practice (CAPP)
www.pharmacy.uky.edu/capp kyle.bryan@uky.edu

Table 1: Specific Protocols Reported as Being Fully Executed (n = 134)	
Nirmatrelvir/Ritonavir COVID-19 Treatment	64%
Opioid Use Disorder – Naltrexone	32%*
Acute Influenza Infection	29%
Acute Group A Strep Pharyngitis Infection	28%
Tobacco Cessation	28%
Anaphylaxis Treatment with Epinephrine	22%
Influenza Chemoprophylaxis	21%
Self-Care: Diabetes Testing & Injection	20%
Self-Care: Nutritional Supplements	18%
Acute Uncomplicated Urinary Tract Infection	19%
Self-Care: Diabetes Testing Supplies	17%
Self-Care: Dietary Supplements	17%
Allergic Rhinitis Therapies	17%
Self-Care: Probiotics	15%
Travel Health Therapies	14%
Alcohol Use Disorder – Naltrexone	14%
Tuberculosis Skin Testing	14%
Self-Care: Emergency Contraception	10%
Colorectal Cancer Screening	10%

*While results indicate 32% of pharmacies had fully executed OUD naltrexone protocols, our work in the state leads us to believe that some respondents conflated the Board Authorized Protocol for OUD naltrexone authorized in 201 KAR 2:380 with an opioid antagonist naloxone protocol authorized in 201 KAR 2:360.

DISCUSSION

- While the authority to provide protocol-driven care has existed for over 5 years, few pharmacies have fully executed protocols in their practices.
- At the time of survey conclusion, the nirmatrelvir/ritonavir COVID-19 treatment protocol had only been approved for 10 weeks yet was the most executed protocol, likely due to it being executed for use in the KY Medicaid population where an HHS mandate ensured payment for services. This rapid and more widespread uptake suggests that protocol utilization increases when there is both a payer and public health need for protocol-driven care.
- Many counties designated as MUA have ample number of pharmacies to provide protocol services, yet 50 counties identified as MUA have no pharmacies reporting use of executed protocols.

CONCLUSION/FUTURE DIRECTION

- Widespread implementation of board authorized protocols in KY is limited.
- While protocol-driven care has great potential to improve access to care, particularly in MUAs, payment for services by commercial and Medicaid plans in KY is needed to ensure a sustainable practice model and achieve public health impact.
- Future studies should aim to assess implementation strategies to determine best implementation practices and assess the impact of protocol-driven care on patient and population health outcomes.

The authors gratefully acknowledge the Kentucky Board of Pharmacy and staff for their work and provision of survey data.

"Board Authorized Protocols": Framing a New Practice Mindset in Kentucky

College of Pharmacy | Beyond the Script

Eric Mackin, PharmD Candidate 2025; Kyle Bryan, PharmD; Bailey Conley, PharmD Candidate 2023; Brooke Hudspeth, PharmD, CDCES; Adrienne Matson, PharmD, BCPS; Patricia R. Freeman, RPh, PhD, FAPhA, FNAP

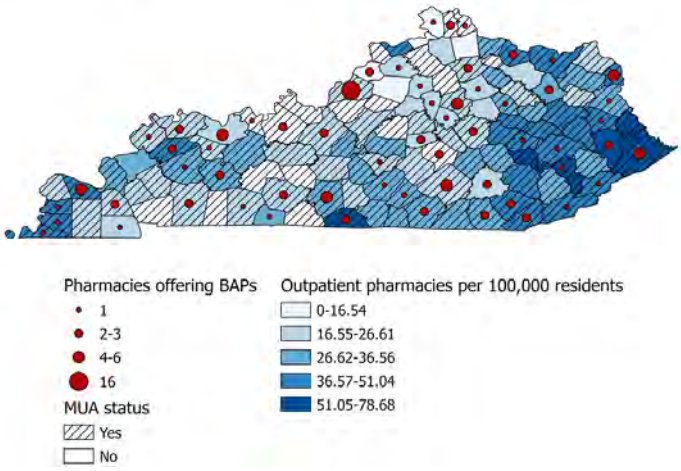
University of Kentucky College of Pharmacy, Center for the Advancement of Pharmacy Practice, Lexington, Kentucky

LEARNING OBJECTIVES

After viewing this poster, learners should be able to:

- Describe the current state of "board authorized protocol" implementation in Kentucky
- Identify the most widespread "board authorized protocols' in Kentucky
- Identify the practice settings in which "board authorized protocols" are most commonly implemented in Kentucky

Figure 1. Availability of Pharmacist Care Services in Medically Underserved Areas (MUAs) in Kentucky via Board Authorized Protocols (BAPs)



BACKGROUND

- Through population-specific collaborative practice agreements, known as "board authorized protocols", Kentucky pharmacists are authorized to provide protocol-driven care for a variety of conditions.
- Before a pharmacist can utilize a protocol to provide care and initiate the dispensing of prescriptions, it must be fully executed (i.e., signed and dated by both the collaborating prescriber and pharmacist(s)).
- This study seeks to describe the extent to which protocols are implemented in KY pharmacies and the relationship between implemented protocols and medically underserved areas (MUAs).

RESULTS

- 16% (134/857) of pharmacies reported having at least one fully executed protocol.
  - 51% were independent community pharmacies, and 45% were chain community pharmacies.
- Almost two-thirds (65%) of responding pharmacies reported having a nirmatrelvir/ritonavir COVID-19 treatment protocol while protocols for other conditions were reported less commonly.
- 80% (96/120) of Kentucky counties are designated MUAs by HRSA
  - 48% (46/96) of these have a pharmacy with an executed protocol

DISCUSSION & CONCLUSION

- While the authority to provide protocol-driven care has existed for over five years, widespread implementation of "board authorized protocols" is limited in Kentucky.
- Noted barriers to protocol implementation include lack of payment for services, difficulty incorporating the protocol into workflow, and inadequate staffing.
- At the time of survey conclusion, the nirmatrelvir/ritonavir COVID-19 treatment protocol had only been approved for 10 weeks yet was the most executed protocol, likely due to it being executed for use in the KY Medicaid population where an HHS mandate ensured payment for services. This rapid and more widespread uptake suggests that protocol utilization increases when there is both a payer and public health need for protocol-driven care.

SELF-ASSESSMENT QUESTIONS

According to the survey distributed by the Kentucky Board of Pharmacy, which "board authorized protocol" was most widespread?

According to the survey distributed by the Kentucky Board of Pharmacy, in which practice setting are "board authorized protocols" most commonly implemented?

What percentage of the 857 Kentucky pharmacies that responded to the survey reported having at least one signed "board authorized protocol" in place in Fall 2022?

FOR MORE INFORMATION

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Kyle Bryan, PharmD
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www.pharmacy.uky.edu/CAPP

Presenters and contributors declare that they do not have any financial disclosures within the past 24 months.

Effective CDS Data Collection and Use

A health data collaboration model using relationships between the state pharmacy regulatory board, independent pharmacy providers, state data collection programs, and electronic service connectors

Authors: Deena Speights-Napapta, MA; Julia Anderson, PharmD
Affiliations: Maryland Board of Pharmacy; Office of Provider Engagement and Regulation (OPER) - Prescription Drug Monitoring Program (PDMP)

Disclosures: Funding recieved from Maryland's Opioid Operational Command Center (OOCC) grant and US Department of Justice, Bureau of Justice Assistance FY 21 Harold Rogers Prescription Drug Monitoring Program

Learning Objectives

- Identify the three enhancements that were available to Maryland dispensers that were identified as opportunities for direct feedback from dispensers.
- Identify the type of pharmacy that indicates the most need for support through controlled substance educational materials.
- Identify the future projects on which the Maryland Board of Pharmacy and OPER plan to collaborate.

Project Outcomes

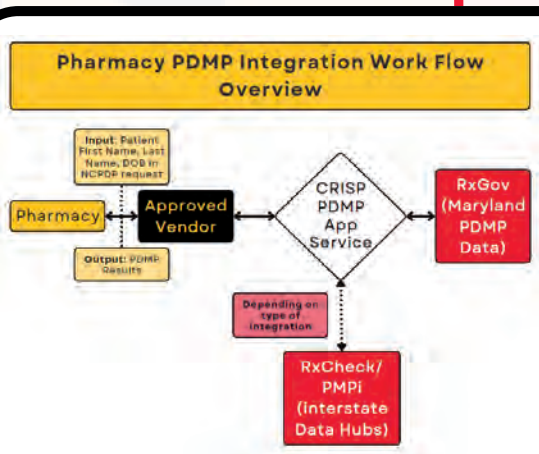
The survey was sent to all pharmacists registered with the PDMP and all dispensers who report to the PDMP.

Responses:

- 40% pharmacists at independent pharmacies
- 58% interested in integrating the PDMP into their pharmacy software system
- 62% interested in gaining clinical access to the HIE
- 28% were interested in being earlier adopters of the new naloxone reporting requirement

Educational materials were developed for pharmacists with the aim of improving controlled substance dispensing, preventing adverse events, promoting the use of the PDMP, and addressing barriers to patient care that are created by stigma.

Maryland Board of Pharmacy Inspectors provided the most up to date information regarding challenges that pharmacists are facing that could be addressed in the materials.

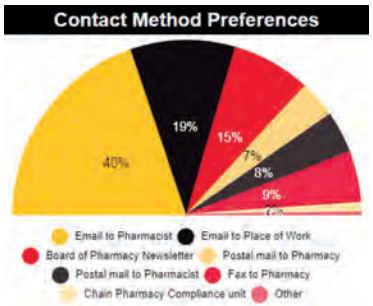


Distribution of Pharmacies that started the PDMP Integration Process

County	# of Pharmacies
Anne Arundel	1
Baltimore City	10
Baltimore County	5
Charles	1
Howard	2
Montgomery	3
Prince George's	10
St. Mary's	1
Wicomico	1
Worcester	1

*Data current as of late 2020

Distribution of Independent Pharmacies



Collaborative Projects

OPER which houses the PDMP has worked collaboratively with the Maryland Board of Pharmacy to promote professional education, informed clinical decision-making, best practices and innovation.

Throughout 2022 and 2023 OPER, with the help of the Maryland Board of Pharmacy, has developed materials with the goal of providing pharmacists with up to date, high quality, evidence-based information to support their dispensing of opioid medications and other controlled substances. The Board of Pharmacy provided invaluable insights into the challenges that pharmacists are currently facing.

In October 2022, OPER created a survey with input from Maryland pharmacists, the Maryland Board of Pharmacy, and other relevant stakeholders to gauge dispensers' interest in three enhancements available to Maryland dispensers.

- Access to clinical data through the Chesapeake Regional Information System for our Patients (CRISP) Health Information Exchange (HIE).
- Integration of the PDMP into the pharmacy software system.
- Interest in early adoption of reporting naloxone dispenses to the PDMP prior to mandated reporting of naloxone dispenses for surveillance data.

Next Steps

Educational Materials: Distribute educational materials and increase awareness of these materials. Maintain ongoing communication with the Board of Pharmacy to ensure pharmacists' current educational needs are addressed and met.

Clinical Access for Pharmacists and PDMP Integration: Continue the collaborative effort between OPER, Maryland Board of Pharmacy, CRISP and other stakeholders. Assist pharmacies that have expressed interest in accessing appropriate resources and contact information.

Naloxone Reporting: Once the regulations for this change have been promulgated OPER will work with the Board of Pharmacy to provide updated guidance and resource materials to pharmacists and dispensers.

EFFECTIVE CDS DATA COLLECTION AND USE

A health data collaboration model using relationships between the state pharmacy regulatory board, independent pharmacy providers, state data collection programs, and electronic service connectors

LEARNING OBJECTIVES

- Identify the three enhancements that were available to Maryland dispensers that were identified as opportunities for direct feedback from dispensers.
- Identify the type of pharmacy that indicates the most need for support through controlled dangerous substance (CDS) educational materials.
- Identify the future projects on which the Maryland Board of Pharmacy and the Office of Provider Engagement and Regulation (OPER) plan to collaborate.

Distribution of Independent Pharmacies

PHARMACIST EDUCATIONAL MATERIALS

Throughout 2022 and 2023, OPER, with the help of the Maryland Board of Pharmacy, has developed materials to provide pharmacists with up-to-date, high quality, evidence-based information to support their dispensing of opioid medications and other controlled substances.

Maryland Board of Pharmacy Inspectors provided the most up-to-date information regarding challenges that pharmacists are facing that could be addressed in the materials.

Educational materials were developed with the aim of improving controlled substance dispensing, preventing adverse events, promoting the use of the PDMP, and addressing barriers to patient care that are created by stigma.

EDUCATIONAL MATERIALS

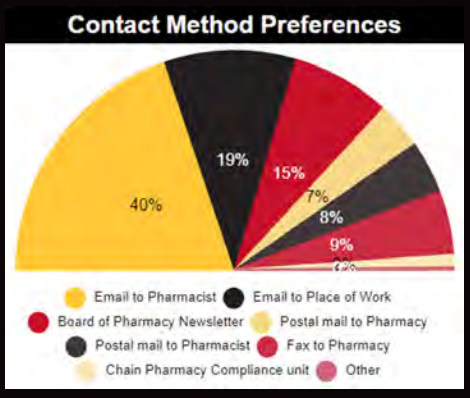
The Educational Resources can be found on the clinical resources section of the Providers page.

Authors: Deena Speights-Napapta, MA; Julia Anderson, PharmD
Affiliations: Maryland Board of Pharmacy; Office of Provider Engagement and Regulation (OPER) - Prescription Drug Monitoring Program (PDMP)

PDMP Dispenser Survey

BACKGROUND

In October 2022, OPER created a survey with input from Maryland pharmacists, the Maryland Board of Pharmacy, and other relevant stakeholders to gauge dispensers' interest in three enhancements available to Maryland dispensers.

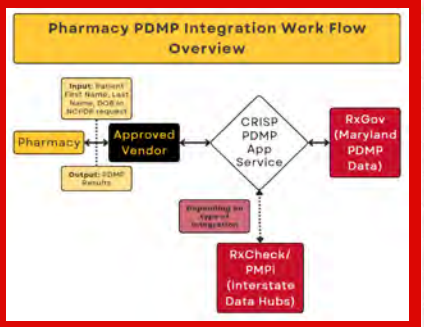


QUESTION #1

The Chesapeake Regional Information System for our Patients (CRISP), Maryland's PDMP vendor, allows pharmacists access to patient clinical data in the Health Information Exchange (HIE) once a credentialing process is completed. Several pharmacies have begun the credentialing process but have not yet completed it.

QUESTION #2

Pharmacies have the option of integrating the PDMP into their pharmacy software system to allow access to the PDMP in a more seamless manner with the possible advantages of increased use of the PDMP and time saved. Very few pharmacies have adopted this enhancement.



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Baltimore County	5
Charles	1
Howard	2
Montgomery	3
Prince George's	10
St. Mary's	1
Wicomico	1
Worcester	1

QUESTION #3

In the 2022 Maryland legislative session, a bill was passed requiring that the PDMP begin collecting naloxone dispense data for surveillance purposes only. Prior to the regulations being promulgated, voluntary earlier adopters could test the process to ensure a smooth transition.

RESPONSES

- 40% pharmacists at independent pharmacies
- 58% interested in integrating the PDMP into their pharmacy software system
- 62% interested in gaining clinical access to the HIE
- 28% were interested in being earlier adopters of the new naloxone reporting requirement

NEXT STEPS

Educational Materials: Distribute educational materials and increase awareness of these materials. Maintain ongoing communication with the Board of Pharmacy to ensure pharmacists' current educational needs are addressed and met.

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Disclosures: Funding received from Maryland's Opioid Operational Command Center (OOCC) grant and US Department of Justice, Bureau of Justice Assistance FY 21 Harold Rogers Prescription Drug Monitoring Program

Snapshot of Current Pharmacy Technician Practice

by Kristen Snair, CPhT, MSJ, and Cyndi Vipperman, CPhT

Learning Objectives

- Identify opportunities to "reframe" a new practice mindset for pharmacy technicians through representation on boards of pharmacy, standardizing minimum competency, licensure transfers, and job titles.
- Compare and contrast state-to-state variances of pharmacy technician standards.
- Describe how the COVID-19 pandemic gave rise to advanced pharmacy technician roles.

Fast Facts

Pharmacy technicians impact health equity through roles in:

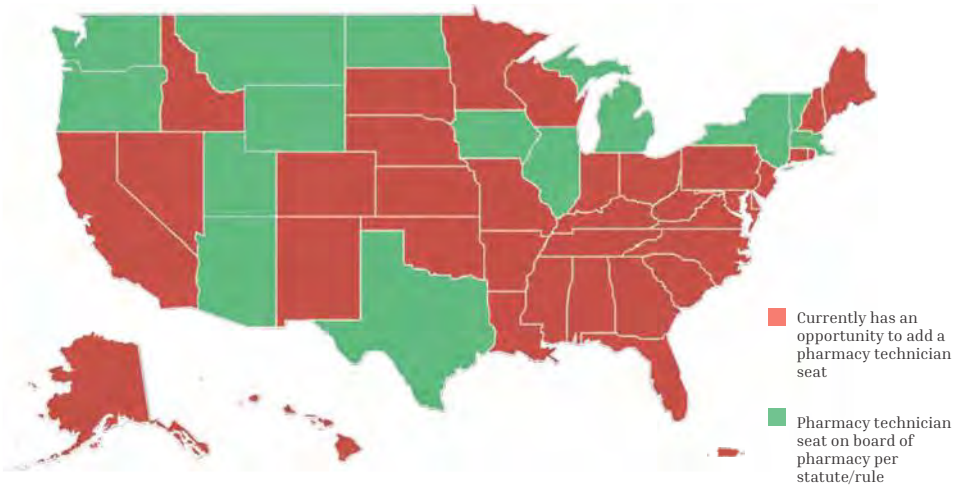
- Remote dispensing pharmacies
- Immunization administration
- Medication therapy management

State-level COVID-19 waivers and the PREP Act have enabled pharmacy technicians to:

- Administer immunizations
- Perform point-of-care testing
- Work from home

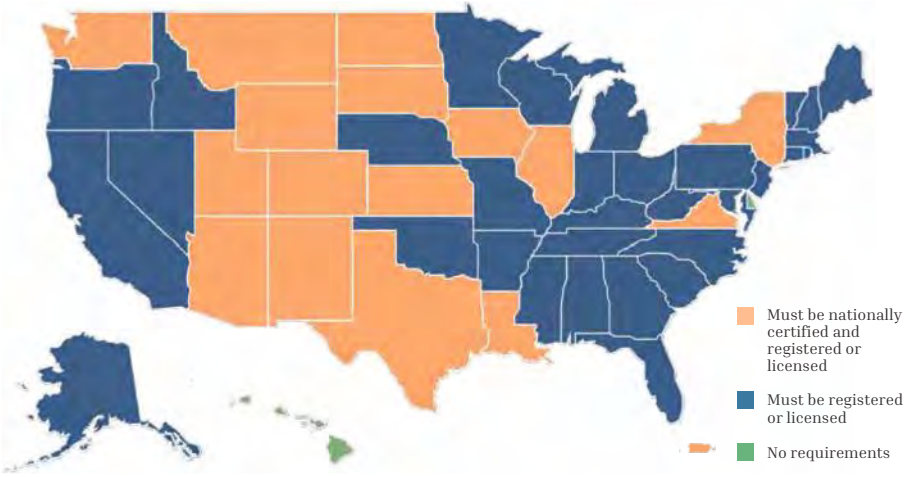
Pharmacy Technician Representation on Boards of Pharmacy

There are 16 pharmacy technician seats on boards of pharmacy per statute/rule, representing approximately 447,000 total technicians nationwide.



Pharmacy Technician Registration/Licensure Requirements

There are 17 states/jurisdictions that require national certification as part of the registration and licensure process.



Points of Entry for Pharmacy Technicians

Board Regulation	Employer Training	Formal Education	Board-Approved Exams
Registration Licensure Certification	Community-based Hospital-based	Accredited programs Nonaccredited programs	PTCE ExCPT State/Employer exam

Advanced Pharmacy Technician Role Examples

- IDS Technician Specialist
- Compliance Coordinator/Regulatory Specialist
- Immunizing Pharmacy Technician
- Lead Pharmacy Technician
- Pharmacy Purchaser/Inventory Specialist
- Medication History Technician
- Technician Product Verifier
- Medication Reconciliation Technician
- Informatics Pharmacy Technician
- MTM Pharmacy Technician
- Medication Access Service Advocate
- Sterile Compounding Coordinator

Conclusion

For more than 110 years, NABP has assisted boards of pharmacy in creating uniform education, ensuring minimum competency, developing licensing standards, and facilitating licensure transfer services for pharmacists. That same uniformity used for pharmacists can be applied to pharmacy technician licensure to achieve the shared goal of protecting public health.

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