House Bill 195:

Pharmacist Prescriptive Authority
Patient Care Services/Standard of Care

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Chair, Alaska Board of Pharmacy

ALASKA BOARD OF PHARMACY
2024 STRATEGIC PLAN

The Alaska Board of Pharmacy endeavors to promote, preserve, and protect the public health, safety, and welfare by and through the effective control and regulation of the practice of pharmacy.

GUIDING PRINCIPLES	GOALS	STRATEGIES	
COMMUNICATION	**1.** Engage in effective communication and promote transparency of public information.	**1.1**	Improve customer service by providing timely and informative updates to applicants and licensees.
		1.2	Maximize communication channels through the Board of Pharmacy website and List Service.
		1.3	Maintain accuracy of website content and ensure accessibility of up-to-date resources
ADMINISTRATION	**2.** Adhere to and strive for improved organizational efficiencies without compromising quality of record keeping.	**2.1**	Avoid delays in application processing by maintaining adequate staffing and exploring flexible retention strategies.
		2.2	Maintain a proactive approach to licensing by consulting historical knowledge, researching national trends, and encouraging innovation in the planning process.
		2.3	Automate initial licensure through online applications.
		2.4	Exercise fiscal discipline through effective budget management.
		2.5	Embrace innovation by exploring integration and/or delegation opportunities to support core administration functions.
LICENSURE	**3.** Ensure competency and qualifications prior to licensure and renewal.	**3.1**	Adhere to established licensing standards by reviewing education, experience, and examination requirements.
		3.2	Take a proactive approach to application and form revision subsequent to regulation changes.
		3.3	Ensure a 14 day or less processing time for licensee applications, and a 30 day or less licensing time for facility applications.
REGULATION & ENFORCEMENT	**4.** Grow the economy while promoting community health and safety.	**4.1**	Routinely review effectiveness of regulations that reduce barriers to licensure without compromising patient health and safety.
		4.2	Combat the opioid crisis by effective administration of the state's Prescription Drug Monitoring Program (PDMP), including collaboration with providers and key stakeholders.
		4.3	Advocate for legislation addressing access to pharmacies as the pharmacy profession evolves and new opportunities for improved patient safety arise.
		4.4	Anticipate changes to the Drug Supply Chain Security Act and respond proactively. Address changes to compounding.

For more information, please visit the following resources:

Board of Pharmacy Homepage: pharmacy.alaska.gov
Prescription Drug Monitoring Program (PDMP): pdmp.alaska.gov

Email: boardofpharmacy@alaska.gov
Phone: 907-465-1073

Background of HB 195

- Result of multi-year, multi-chair Board of Pharmacy review of statutes and regulations to align Alaska pharmacists' license authority with their education, training, and experience to increase access to care.
  - HB 145 (2021-2022)
    - New statute added for "other patient care services"
    - Clarifications needed
- HB 195 addresses changes by:
  - Increasing access to care
  - Incorporating established models of care
  - Encouraging interdisciplinary engagement
- Collaborative effort between the Alaska Board of Pharmacy and the Alaska Pharmacy Association

Safe Access with Interdisciplinary Engagement

Pharmacists are readily accessible, including in rural communities

Allows healthcare practitioners to practice at the top of their education, training, and experience

“A pharmacist prescribing or administering a drug or device under this section shall recognize the limits of the pharmacist's education, training, and experience and consult with and refer to other practitioners as appropriate"

Pharmacists serve as part of the healthcare team to ensure access to safe care in Alaska

Incorporates Established Models of Care

Standard of Care Model

Care provided within scope of pharmacists' education, training, and experience.

Patient safety maintained by measuring practitioners within the same practice setting

Federal Legislation

Public Readiness and Emergency Preparedness (PREP) act

Mainstreaming Addiction Treatment (MAT) Act

Aligns with Federal models including care provided in the Veterans Health Administration

Support

The Board of Pharmacy respectfully requests your support of HB 195, aligning with our Mission and Strategic Plan

- To further promote, preserve, and protect the public health, safety, and welfare of Alaskans by and through the effective control and regulation of the practice of pharmacy.

- To promote community health and safety while growing Alaska's economy.

ALASKA'S PHARMACISTS

IMPROVING THE HEALTH OF COMMUNITIES

AKPhA
ALASKA PHARMACY ASSOCIATION

Pharmacists are essential members of the healthcare team and evidence clearly shows the growing need for pharmacist-provided patient care services. To guarantee equitable access to this vital care, both public and private health plans must cover pharmacists' patient care services.

Learn More!

QUALIFIED

HIGHLY QUALIFIED HEALTHCARE PROVIDERS

EDUCATION
6-8 years of education including pharmacotherapy, disease management, and clinical decision-making

CLINICAL TRAINING
At least 1,740 hours of clinical practice experience focused on high-quality patient care in a variety of healthcare settings

ADDITIONAL TRAINING
Many complete post-graduate residencies, fellowships, and/or board certifications in various specialty areas

All current pharmacy school graduates earn the PharmD degree, a doctorate degree reflecting the advanced pharmacotherapy knowledge and comprehensive patient care training essential for providing high quality pharmacist services, a requirement that has been in place **since 2004**.

ACCESSIBLE

MOST ACCESSIBLE HEALTHCARE PROFESSIONAL

520 Pharmacists in Alaska [1]

860 Pharmacy Technicians in Alaska [1]

89% Americans live within 5 miles of a community pharmacy. [2]

Number of pharmacies is **15% higher** than number of provider's offices in communities where more than 30% of households live in poverty. [3]

PUBLIC HEALTH IMPACT

VITAL TO IMPROVING PUBLIC HEALTH

Approximately 50% of all adults in the U.S. have one or more chronic disease conditions. [4]

Chronic conditions account for over 85% of total U.S. health care costs. [4]

$4 Saved for every $1 spent on pharmacist service. [5]

COVERAGE OF SERVICES

Pharmacists' clinical services are **rarely** covered under the medical benefit by **health plans**. This creates **barriers** to patients using their health insurance to receive care from pharmacists.

$9.64 return on investment for every $1 when pharmacists are paid for providing various patient care services.[6]

All health plans, public and private, **must** cover the services pharmacists provide to ensure patient access.

TEST & TREAT

Pharmacy-based point-of-care testing and treatment services provide prevention and early detection for minor health conditions.

30 States now authorize pharmacists to directly order and administer CLIA-waived tests.

States now authorize pharmacists to directly prescribe treatment pursuant to a CLIA-waived test. **13**

Common Pharmacy-Based CLIA-Waived Tests*

COVID-19	Flu	UTI	HIV
Strep	RSV	STI	& more

*Abbreviation details available on references page.

IMMUNIZATIONS

Alaska pharmacists are independently prescribing vaccines.

Pharmacies offer **TWICE** the operating hours for giving immunizations vs. provider's offices[7]

2023-24 Flu Season

Pharmacies gave **37.6 Million** flu shots

vs

25.5 Million given at provider's offices[8]

27 States now authorize pharmacists to **directly prescribe** and administer vaccines to patients.

OPIOID USE DISORDER

81,000 Americans died from an opioid overdose in 2023.[9]

222 average deaths per day[9]

13 States authorize pharmacists to prescribe medications for opioid use disorder.

Naloxone access laws that grant pharmacists direct authority to prescribe are associated with significant reductions in fatal overdoses.

HIV PREVENTION

Pharmacists have been identified by the White House as key professionals in achieving one of the CDC's goals of ending the HIV Epidemic in the U.S. by preventing HIV infection.

States authorize pharmacists to directly prescribe HIV pre-exposure prophylaxis (PrEP) medications. **16**

19 States authorize pharmacists to directly prescribe HIV post-exposure prophylaxis (PEP) medications.

This information was developed through a collaboration between NASPA and APhA, with generous support from the Community Pharmacy Foundation.

Access our references at tinyurl.com/2024factsheet
Or scan this QR code

REIMBURSING U.S. PHARMACISTS TO TEST AND TREAT COMMON ILLNESSES

Prepared for:
State of Alaska
7/10/2024

Can speed up treatment, increase convenience, improve access to care and decrease costs for Alaska and its residents

HEALTHCARE WORKERS ARE IN SHORT SUPPLY

The national shortage of U.S. healthcare workers **(more than 3.2 million by 2026** [2] **)** leaves many individuals without timely access to diagnosis and treatment services for low acuity respiratory symptoms.

Pharmacist test and treat services can help free up specialized medical technologists across the health system for priority testing and treatment of life-threatening illness.

"HEALTHCARE DESERTS" COMPOUND THE PROBLEM

Nearly **75 million people**, or almost one-third of the population, reside in one of the **7,475** Primary Care Health Professional Shortage Areas (HPSAs) across the U.S.[1] HPSAs can be both rural and urban, and have limited access to basic medical services.

IN ALASKA THERE ARE

287.7 THOUSAND
people living in
333
Healthcare Primary Care Professional Shortage Areas (HPSAs)[1]

112.9 THOUSAND
Medicare enrollees, or
15.0%
of the population[3]

44 THOUSAND
Estimated **Medicare enrollees** experiencing challenges to access care in HPSAs*

PHARMACISTS ARE FILLING THE VOID, ESPECIALLY IN RURAL AND UNDERSERVED COMMUNITIES

89%
of Americans live within **5 miles** of a pharmacy[4]

62
Alaska pharmacies with CLIA-waivers to perform diagnostic tests[5]

Since 2020, pharmacists have delivered over
42 MILLION
respiratory illness tests, establishing a **nationwide network for rapid testing**[6]

PHARMACY TEST AND TREAT SERVICES CAN REDUCE HEALTHCARE COST

UPPER RESPIRATORY TRACT INFECTIONS	PATIENT OUT-OF-POCKET (COST SHARING)	HEALTH SYSTEM PAYMENT
Average visit cost - Emergency Department	$523 [7]	$1,535 [7]
Pharmacy test and treat (assumes 20% co-pay)	$28.70	$143.50 [8, 9]

If 1% of Medicare enrollees in Alaska visited a pharmacy instead of an emergency department,
$1 MILLION
in **health care system savings** could be achieved**
reducing patient out-of-pocket costs***
95%

Estimates shown are for illustrative purposes only. There is no guarantee of the potential savings indicated.

*% of state population living in HPSA (287,657 people in HPSA[1]/733,406 census population[10]) x 112,886 Medicare enrollees[3].
Assumes distribution across HPSAs consistent with general population.

**(ED Health System Payment ($1,535-$523[7]) - Pharmacy test and treat ($143.50-$28.70[8])) x (112,886 Medicare enrollees[3] x .01)

***$523 out-of-pocket cost for ED visit[7] vs.$28.70 out-of-pocket cost for pharmacy test and treat[8]

06/2024

TEST AND TREAT AT THE LOCAL PHARMACY CAN REDUCE COST AND OFFER HIGH-QUALITY, CONVENIENT CARE

REDUCED COST

Pharmacy test and treat services have the potential to reduce health system costs as well as out-of-pocket expenses for patients. These services, if reimbursed at current cash pay prices, would be **similar to costs for low acuity urgent care or primary care** office visits.

Patients who do not have access to a primary care doctor will have the opportunity to be quickly diagnosed and treated, so their respiratory **symptoms do not progress into a more serious and costly health care condition** such as bronchitis or pneumonia. [11-13]

Patients and insurers will receive the full clinical benefit of money spent on COVID-19 and influenza **treatments which are only effective if started within 2-5 days of symptom onset**. [14-16] Studies have shown that treatment within 48 hours for the Flu can shorten the duration, severity and cost of the illness. [17]

Individuals who live in medical provider shortage areas will have an **alternative to using the ER for respiratory infections** which are common and generally uncomplicated if diagnosed and treated early. [18]

HIGH QUALITY CARE

Pharmacist education includes the **extensive study of diseases, their diagnosis, and corresponding treatments**. [19]

All states **mandate that pharmacists maintain their clinical expertise** through continuing education credits, and many states require pharmacists providing test and treat services to complete additional training. [19, 20]

CONVENIENCE

Pharmacies are often located near homes, along bus lines or within locations people already frequent daily, like grocery and convenience stores. Reimbursing pharmacists to test and treat will **empower patients to seek care** at drug stores nearby, making convenience even greater.

Pharmacists can **speed up diagnosis and treatment** of common illnesses by offering both services in a single location. Immediate treatment can help patients get well sooner, allowing them to **return to work or school more quickly**.

Pharmacies have **flexible hours** beyond just the traditional workday, with many open on weekends or even 24/7. They can provide test and treat services during hours other care may not be available, **especially in parts of the country that lack other flexible options** (e.g. urgent care, after hours clinics).

LEGISLATIVE ACTION IS NEEDED

Respiratory testing access with pharmacists nationwide is at risk

Without action, pharmacies will lose their incentive to maintain their testing infrastructure, causing a **significant loss in availability of test and treat services needed during respiratory illness seasons** when preventing the spread of infection is most important for seniors. Ultimately, patient outcomes may suffer. [21, 22]

Across the U.S., more than 7,000 pharmacies have closed since 2019. Experts say they can leave behind communities that have come to depend on them as trusted sources of care and advice - both of which can be hard to find in many urban and rural areas. [23]

Reimbursement of pharmacy test and treat services can help offset losses from reduced dispensing reimbursement and DIR (direct and indirect remuneration) reform. [24]

H.R. 1770 / S. 2477 EQUITABLE COMMUNITY ACCESS TO PHARMACIST SERVICES ACT

Authorizes pharmacists to **receive reimbursement for low-acuity respiratory illness** services for seniors and others receiving Medicare [25]

- Does not provide Medicare reimbursement for all services such as medication, chronic disease management, health and wellness screening, and education
- Does not recognize pharmacists as health care providers for all Medicare patients
- **Does not supersede state scope of practice laws** [26]

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SB 147

PHARMACIST PROVIDED PATIENT CARE SERVICES / STANDARD OF CARE

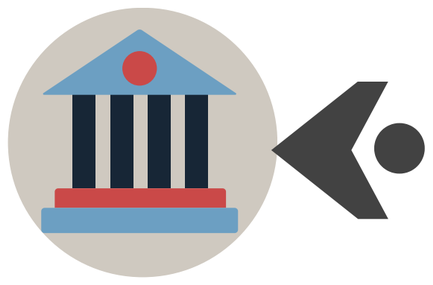
The goal of this bill is to increase access to pharmacist-provided patient care services, allowing healthcare practitioners in Alaska to practice at the top of their education, training, and experience.

INCREASED ACCESS TO TIMELY CARE FOR ALASKANS

Pharmacists are uniquely positioned to help manage chronic diseases and minor ailments, decrease unnecessary emergency department visits, and deliver preventative health outcomes.

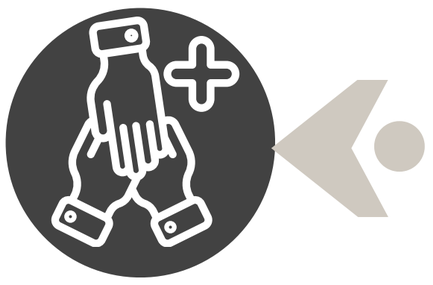
ALIGNMENT WITH THE STANDARD OF CARE

The Alaska Board of Pharmacy already regulates pharmacists under the standard of care, this bill aligns the statute with this model.



ESTABLISHED FEDERALLY

Expanded pharmacist services have been established federally. MAT Act allows pharmacists to prescribe for opioid use disorder. Nearly 100 years of evidence based practice at federal healthcare settings show improved patient outcomes.



INTERDISCIPLINARY COLLABORATION

The bill encourages interdisciplinary collaboration & patient referral to higher levels of care as needed.

DOCTOR OF PHARMACY EDUCATION

Pharmacists complete a standardized Doctor of Pharmacy (PharmD) degree nationwide, accredited by Accreditation Council Pharmacy Education, with 1,740 hours of clinical training.

State Boards of Pharmacy help ensure safe care through participation in accreditation reviews.

Communities trust their pharmacists. With pharmacists permitted to practice at the top of their education, training, and experience, a pharmacist can better triage a patient for referral to more acute care when needed.

Alaskans Strongly Support Expanded Pharmacist Care. A recent national poll, including Alaska-specific data, reveals that Alaskans overwhelmingly support expanded roles for pharmacists in testing, treatment, and prevention of common and chronic conditions at thier local community pharmacies.

Alaska’s healthcare system in general has limited hospital beds, emergency department space, and other services in general. Utilizing every provider at the top of their education, training, and experience can increase access to timely and appropriate care

SUPPORTED BY THE ALASKA BOARD OF PHARMACY & THE ALASKA PHARMACY ASSOCIATION

American Pharmacists Association
For Every Pharmacist. For All of Pharmacy.

Press Releases

Published on Tuesday, December 10, 2024

HHS extends federal authority consistent with APhA request for pharmacy personnel to independently administer vaccines and test to treat services through 2029

WASHINGTON, DC — The American Pharmacists Association (APhA) released the following statement regarding the U.S. Department of Health and Human Services (HHS) response to APhA's request to issue a **twelfth amendment** to the declaration under the federal Public Readiness and Emergency Preparedness (PREP) Act for medical countermeasures.

"Today's necessary actions by HHS will continue to **save lives and lower health care costs**, particularly in rural and underserved areas where the local pharmacy may be the only health care provider for miles," said Michael D. Hogue, PharmD, FAPhA, FNAP, FFIP, executive vice president and CEO of APhA. "As a vital part of our nation's health care infrastructure, pharmacy teams serve as the front line of defense against infectious disease. APhA applauds HHS for extending these federal authorities until **legislation** is passed by the U.S. Congress to make them permanent."

Key changes finalized in the amendment include:

- **Extends PREP Act coverage and authority for COVID-19 and seasonal influenza vaccines and COVID-19 tests.** PREP Act immunity from liability is extended through December 31, 2029, to pharmacists to order and administer and pharmacy interns and pharmacy technicians to administer COVID-19 and seasonal influenza vaccines (three and over), and COVID-19 tests.

Since 2020, licensed pharmacists in all 50 states have been able to utilize federal PREP Act authority to provide vaccination, and testing and treatment services, specifically to children ages 3 to 18 years, where they previously had not been permitted in certain states. Several states have taken action (**see map**) to make these federal PREP Act authorities permanent.

###

The Community Pharmacy Technician's Role in the Changing Pharmacy Practice Space

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Abstract

***Purpose**: The practice of pharmacy and role of pharmacists has evolved over the decades but markedly since the introduction of the Affordable Care Act (ACA) in 2010. The ACA allowed patients to have increased access to community pharmacy services, such as medication therapy management, leading to an increase in the clinical services provided by pharmacists. This expansion of pharmacist's roles has led to pharmacists to feel an increase in workload which negatively impacts the time spent with patients. One way for this shift to occur without continuing to increase the pharmacist's workload is by using technicians as pharmacist extenders to take on more technical tasks.*

***Summary**: The role of pharmacy technicians has been slow to expand from fear of public safety due to the lack of required education and training. Today, state requirements to practice as a pharmacy technician have become stricter with state requiring licensing, registration or certification. This increase in requirements as led to the expansion of pharmacy technician duties. Studies show that pharmacy technicians are able to perform technician accuracy checking, provide immunization and perform Clinical Laboratory Improvement Amendments (CLIA)-waived screenings. In addition to these duties, pharmacy technicians are being utilized in more novel ways such as collecting medication information in primary care and telepharmacy settings.*

***Conclusion**: In order for pharmacy to continue to grow as a profession, pharmacists need to use pharmacy technicians as extenders. As pharmacy technicians begin to take on more of the technical duties, pharmacists are able to increase the time spent with patients.*

Key Words: Pharmacy technicians, expanding roles, community pharmacy

Introduction

Community pharmacists are seeing an evolution in their role with the shift in healthcare focusing on quality of care, brought on by the Affordable Care Act. The act signed into law in 2010, helped to expand pharmacists' roles in coordinating care for patients and medication therapy management. While this was a great advancement for the profession of pharmacy, pharmacists feel an increased workload on a daily basis to provide their traditional dispensing services in addition to clinical services. According to the 2014 American Association of Colleges of Pharmacy's (AACP) National Pharmacists Workforce Survey, 66% of community pharmacists reported an increase or great increase in workload compared to a year ago.[1] In addition to the increase in workload, 54% of community pharmacists stated that their workload negatively impacted the time spent in contact with patients and 35.5% of community pharmacists felt that their workload negatively impacted the quality of care provided to patients.

On average community pharmacists spend 75% of their time on patient care services associated with dispensing which includes calling providers, counseling on medications and preparing medications.[1] The traditional role of a pharmacy technician is to aid the pharmacist in providing patient care services associated with dispensing that do not require professional judgement. The other 25% of the community pharmacist's day is spent on patient care services not associated with dispensing and business management at 13% and 12%, respectively. Patient care services not associated with dispensing contain services billable by pharmacists such as completing comprehensive medication reviews, assessing medication needs, and adjusting medication dosages. Providing more patient care services not associated with dispensing can help close the gap between the actual dispensing cost and reimbursement received through the additional revenue. This shift in focus on clinical services to make revenue means that pharmacist's need to spend less time in the dispensing role and more time providing more clinical services. One way for this shift to occur without continuing to increase the pharmacist's workload is by using technicians as pharmacist extenders to take on more technical tasks. These technical tasks should include both traditional dispensing roles as well as novel non-traditional roles, such as vaccination administration and administration positions. To justify the expansion of pharmacy technician's role, pharmacists must recognize the history and development of pharmacy technician roles, understand pharmacy technician laws and regulation, and utilize technicians as pharmacist extenders.

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History of Pharmacy Technician Roles

Pharmacy technicians have a long history in the pharmacy profession. The first formal pharmacy technician role dates back to approximately 1939 during World War II.[2] Much like many pharmacy technicians today, technicians during this time were high school graduates without any formal training beyond employer-based training programs and their main duty was to assist the pharmacists in their daily tasks. For many years pharmacists were reluctant to increase the numbers of pharmacy technicians within pharmacies as they were hesitant

DOI: https://doi.org/10.24926/iip.v11i2.3325

to pay additional personnel and feared that they would take their careers.[3] In the 1960s and 1970s health-system pharmacists began to shift to more of a clinical role and automation became more common in pharmacies.[2] These innovations led to more formalized roles of pharmacy technicians, particularly in the hospital setting.

Community pharmacists, on the other hand, were reluctant to the idea of utilizing pharmacy technicians out of concern for public safety. Due to this fear and increased number of pharmacy technicians, the U.S. Department of Health, Education and Welfare in 1968 recommended that pharmacy technicians have formal training in junior colleges and other institutions. While the creation of training guidelines and programs for health-system pharmacy technicians began by the mid-1970s, it wasn't until 1990s when community pharmacy technician roles become better defined, which in turn brought the development of national certifications and implementation of training for community pharmacy.

Pharmacy Technician Rules and Regulations

Today, the requirements and roles of community-based pharmacy technicians vary from state to state. Many states now require pharmacy technicians to become registered, certified or licensed but the requirements to obtain these designations is not uniform across the country. According to the Pharmacy Technician Certification Board (PTCB), registration is defined as "making a list of pharmacy technicians in the state or of being enrolled in an existing list" and licensure is defined as "the process by which an agency of government grants permission to an individual to engage in a given occupation upon recognizing that the applicant has attained the minimum competency necessary to ensure that the public health, safety, and welfare will be reasonably well protected".[4] While these definitions help distinguish between registration and licensure nationally, the specific requirements and terminology to hold these designations still vary by state. Variability among states include roles such as registered technician, certified technicians, licensed technicians, as well as entry-level and advanced technicians. Many states that require pharmacy technicians to become registered have education or training requirements making it similar to a license. For example, in Indiana and Ohio all pharmacy technicians much be 18 years of age or older, obtain a high school diploma or GED, submit a criminal background check and complete an approved education program, however Indiana pharmacy technicians are termed to be "licensed technicians" while Ohio pharmacy technicians are considered "registered technicians" even though the requirements are the same. Currently, 73% of the United States require training of pharmacy technicians, however 35% of states require board approved training programs and only North Dakota requires an ASHP accredited program.[5]

Certified pharmacy technicians are the only subset with a very defined set of requirements. In order for technicians to become nationally certified as a technician they must pass an examination approved by the Pharmacy Technician Certification Board (PTCB) or National Pharmacy Technician Association (NPTA) which attests the status of their education. In addition, pharmacy technicians must possess a high school diploma, disclose criminal and State Board of Pharmacy actions, complete an accredited education program and receive a passing score on the PTCB or NPTA examination.[6,7]

Table 1: Pharmacy Technician Requirements

Required Status	Number of States*
Licensed	11
Registered	33
Certified	24
Training	38
***includes Washington D.C., Guam, and Puerto Rico**	

In addition to the variation in requirements to become a pharmacy technician there are variations in pharmacy technicians' roles. The traditional role common in all states include entering prescriptions into a pharmacy computer, counting medications, and affixing labels.[5] As pharmacy expands the role of the pharmacy technician, they are given responsibilities in non-traditional roles such as accepting called-in prescriptions, checking the work of other technicians and administering immunizations. By allowing pharmacy technicians to take on these non-traditional roles, it will allow pharmacists to have more time to complete patient care services not associated with dispensing and allow for increased revenue.

Table 2: Pharmacy Technician Roles

Technician Role	Number of States*
Accept Called-in Prescriptions	14
Administer Immunizations	2
Call Physician for Refill Authorization	41
Check Work of Other Technicians	12
Compound Medication for Dispensing	52
Enter prescriptions into Pharmacy Computer	53
Transfer Prescriptions	12
***includes Washington D.C., Guam, and Puerto Rico**	

Pharmacy Technicians as Pharmacist Extenders

In order for the scope of pharmacists' practice to continue to grow, pharmacists should utilize their pharmacy technicians as extenders. As community-based pharmacists develop new roles, they are expected to do more with less time by providing an increase number of clinical services while performing traditional dispensing for more patients. By utilizing pharmacy technicians to their full potential, pharmacists can increase time spent with patients and conducting clinical services. The

DOI: https://doi.org/10.24926/iip.v11i2.3325

term technicians as pharmacist extenders means that pharmacy technicians are used based on their full scope of practice to help pharmacists reach more patients, improve clinical outcomes and increase revenue. The full scope of pharmacy technicians includes the traditional roles of support for dispensing but also includes non-traditional roles of administering immunization, technician accuracy checking, and facilitation of Clinical Laboratory Improvement Amendments (CLIA)-waived screenings. Studies have shown that pharmacy technicians are capable of performing these non-traditional tasks by being just as safe and accurate as pharmacists and it allows pharmacist to spend more time in the clinical role.[8-11]

Pharmacy technician provided immunizations and technician accuracy checking are two areas that pharmacy technicians have recently been given more responsibility to complete. Currently only three states, Rhode Island, Idaho and Utah, allow pharmacy technicians to administer all United States Centers for Disease Control and Prevention (CDC) recommended vaccinations to patients. In these states, technicians must complete a 6-hour training program from the Accreditation Council for Pharmacy Education (ACPE) that contains 2 hours of home study material and a 4-hour live training or American Pharmacists Association (APhA) Pharmacy-based Immunization Delivery training. In addition to the training, technicians must be PCTB or NPTA and basic life support (BLS) certified. While there have been no randomized controlled trials conducted on technician administered vaccinations, Idaho collected anecdotal data from the 6-month pilot period before it became a law. During this 6-month period, 25 technicians administered 935 vaccines to patients that were 6 years or older and no adverse events were reported.[8] Currently there are no studies showing the direct benefit of pharmacy technicians administering vaccinations, however the profession of pharmacy can extrapolate anecdotal data from physician and other medical practice models. In these practice models, physicians often delegate vaccination administration to medical assistants and nurses whom have similar or less training as pharmacy technicians. While more studies need to be conducted to show the true economic and clinical benefit of pharmacy technicians administering vaccinations, with millions of immunizations provided to patients each year the pharmacists' time saved is the largest benefit.

Technician accuracy checking is another role that is becoming more common as part of pharmacy technician's full scope of practice. Technician accuracy checking (TAC) is defined as utilizing technology to check the work of someone else, an automated dispensing system or other technology assisted filling equipment. An example of accuracy checking includes having a technician ensure that the current product and quantity was dispensed by an automated dispensing machine. Currently, 20 states allow TAC either through a pilot program or is board approved but 10 states only allow it in the outpatient setting. In the inpatient setting, there have been 11 studies on TAC in which all show that technicians were just as accurate, if not more accurate, than pharmacists at checking the accuracy of dispensed medication. In the community setting four studies have been conducted and found similar results to the inpatient studies; that technicians are just as accurate as pharmacists at accuracy checking.[9-10] In a study conducted by the University of Wisconsin researchers found that technicians are 99.95% accurate compared to pharmacist whom are 99.74% accurate.[9] In another study that looked at overall errors as well as administrative and patient safety errors found no statistically significant difference between pharmacists and pharmacy technicians.[10] In addition to technicians being equally accurate as pharmacists, two studies showed that by allowing technicians to check medications it allowed the pharmacists to have more time, equivalent to approximately 23 days a year, to complete other direct patient care tasks in the day. The increase in time in direct patient care allowed the pharmacist to spend significantly more time providing counseling to patients on medications and determining proper drug utilization.[9]

Novel Technician Duties

In pharmacy, there has been an increase in the number of point of care testing (POCT) services provided to patients. CLIA-waived POCTs, which are defined as simple tests with a low risk for an incorrect result, are quick tests that may be performed by pharmacists and pharmacy technicians. Some common POCT performed by pharmacists and pharmacy technicians include cholesterol, blood glucose and International Normalized Ratio (INR) testing. Patients want quick and easy clinical services, and many pharmacies and ambulatory care clinics have shorter wait times than a traditional emergency room or acute care clinic leading to increased demand for POCTs and services. One practice model that would utilize pharmacy technicians would be having the technician set up appointments for patients, gather patient information when rooming patients for appointments and perform the CLIA-waived point of care test. This model would allow the pharmacist to see an increase number of patients since the pharmacy technician would be obtaining the laboratory value leaving the clinical decision making to the pharmacist. Some common CLIA-waived point of care tests performed by pharmacies include blood glucose, cholesterol, influenza, group B streptococcus, human immunodeficiency virus (HIV) and human papillomavirus (HPV) tests. As the scope of point of care testing completed in a community pharmacy and ambulatory care setting grows, the more pharmacists will need to rely on their pharmacy technicians.

Another novel role for pharmacy technicians would be when patients are admitted to an urgent care clinic or present to a community pharmacy either in person or virtually though telehealth to obtain patient information such as a medication history. The practice model would be similar to the point of care testing and would mirror that of a medical assistant or nurse and physician or physician assistant during a doctor's appointment. The pharmacy technician would collect all

DOI: https://doi.org/10.24926/iip.v11i2.3325

background information then the pharmacist would see or talk to the patient. Again, this model would allow the pharmacist to focus on the medication related problems and clinical recommendations by having all needed information collected before seeing the patient. In rural areas, telepharmacy could be used to allow the pharmacist to access a larger patient population and allow patients to stay close to home for their care if done virtually. The practice model would work the same as in person appointments but would be done through a computer or phone.

Point of care testing and medication management services can provide additional revenue to ambulatory care clinics and community pharmacies when provided in person or virtually. At many community pharmacies, point of care testing is an out of pocket service for patients providing direct revenue to the pharmacy and the cost of these services vary by location. In ambulatory care clinics, pharmacists can bill incident-to a physician for services as a source of revenue. The reimbursement for pharmacy services billed incident-to a physician depends largely on the complexity of the appointment but could range from approximately $20 to $100 and depending on state regulations telepharmacy services may be billed similarly to in-person pharmacy services with similar reimbursement. The benefit of utilizing pharmacy technicians to help provide these services is the amount of time saved to pharmacists. In a study coordinated by the Pittsburgh Regional Health Initiative (PRHI), pharmacy technicians performed tasks such as obtaining patient medication, retrieving laboratory information from the patient's chart and gathering patient education materials which allowed for a 40.5% increase in the number of CMRs completed by pharmacists.[11]

Lastly, pharmacy technicians could be utilized in management roles needed to ensure the pharmacy runs efficiently such as inventory management, 340B coordination, informatics, and billing and finance integrity. These roles are very important to make sure that the pharmacy has sufficient inventory, reimbursed properly, and meeting compliance standards of the many regulatory bodies; and can take a lot of time to be done properly. While some health-systems utilize their pharmacy technicians in management roles, there is a great opportunity in the outpatient space. As frontline staff, pharmacy technicians are knowledgeable in possible workflow enhancements that need to be made, inventory management strategies and education and training of other technicians. Utilizing pharmacy technicians in these roles, once again allows pharmacist to spend more time performing clinical duties.

Conclusion

As the world of healthcare continues to evolve so does the profession of pharmacy. While stagnant for many years, the role of the pharmacy technician has begun to evolve since 1939 when pharmacy technicians had minimal assistant duties. This movement is in large part due to more regulated training and registration or licensure requirements to be a pharmacy technician. As pharmacy technician's roles begin to expand, registration or licensure requirements need to become more standardized. This standardization will not only help pharmacist feel more comfort allowing technician to take on more tasks but allow boards of pharmacy more oversight of technicians.

In order to be able to provide the services necessary to create a sustainable profession, pharmacy cannot get complacent and must utilize our pharmacy counterparts. By allowing pharmacy technicians to take on non-traditional roles such as administering immunizations, technician accuracy checking and point of care testing it allows pharmacists to provide more clinical services and increase the time spent with patients. While more studies need to be done to investigate the direct economic and clinical impact of these non-traditional roles of pharmacy technicians, the impact of pharmacists provided clinical services has shown a direct correlation to better health outcomes, increased patient satisfaction and positive economic impact.

Conflicts of Interest: None

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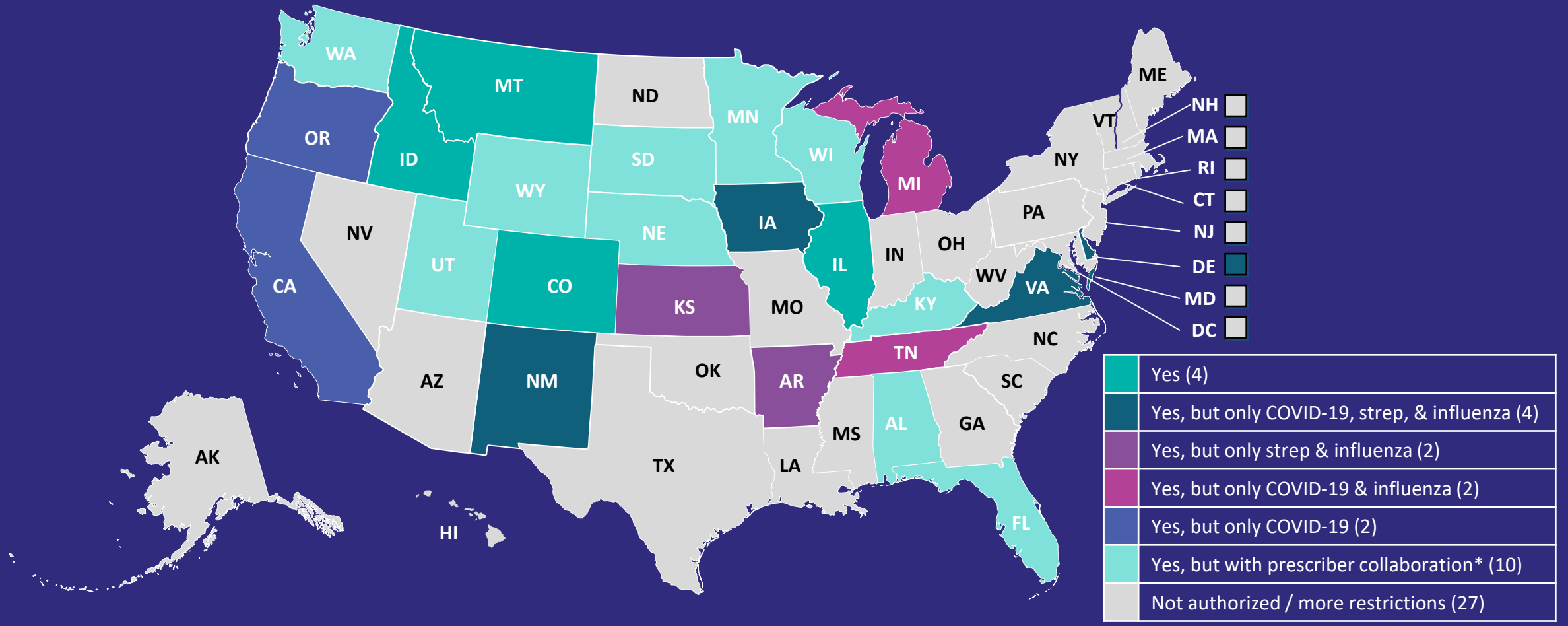
Updated November 2024

Can pharmacists test and treat for COVID–19, influenza, respiratory syncytial virus, or streptococcal pharyngitis via prescriptive authority, statewide protocol, or other means?*



*Limited to collaborative practice agreements or prescriber protocols that allow multiple patients and do not require past prescriber-patient relationship

What Is SB 147 and HB 195?

Senate Bill 147 and **House Bill 195** are companion bills designed to allow Alaska pharmacists to provide patient care services — including prescribing and administering medications for minor and common conditions — within the "standard of care" framework.

The bills:

- Allow pharmacists to practice to the full extent of their education, training, and experience.
- Expand access to timely, safe healthcare services, especially in underserved communities.
- Align pharmacy practice with the standard of care model already used by other healthcare professionals.

What the Bills Do:

- This bill allows pharmacists to provide patient care services, including **limited** prescriptive authority, **as long as it falls within their clinical education, training, and experience.** Pharmacists would continue to operate under existing "guardrails" established in **AS 08.80.337**, which governs other pharmacist-provided patient care services.

  The existing section of law outlines:

  - *A pharmacist may independently provide patient care services for*
    - *(1) general health and wellness;*
    - *(2) disease prevention; or*
    - *(3) a condition that*
      - *(A) is minor and generally self limiting;*
      - *(B) has a test that is used to guide diagnosis or clinical decision-making and the test is waived under 42 U.S.C. 263a (Clinical Laboratory Improvement Amendments of 1988); or*
      - *(C) falls under a statewide standing order from the chief medical officer in the Department of Health*

- Increase healthcare access, especially for patients with limited or delayed access to primary care.
- Build on pharmacists' extensive education (Doctor of Pharmacy degree + clinical training).
- Require pharmacists to meet the same "standard of care" expectations as other healthcare providers.

What the Bills DO NOT Do:

- **Do not** give pharmacists unrestricted or unlimited prescribing authority.
- **Do not allow pharmacists to prescribe or administer abortion medication**
- **Do not** allow pharmacists to perform complex diagnostics outside of their training.
- **Do not** bypass the healthcare team — pharmacists collaborate and appropriately refer when needed.
- **Do not** mandate that all pharmacies must offer these services.

What is the "Standard of Care"?

The "standard of care" is a widely accepted legal and clinical framework that governs how healthcare services are delivered. It means that pharmacists, like physicians and nurse practitioners, are held to:

- Performing only services they are trained, educated, and competent to provide.
- Practicing safely, responsibly, and ethically.
- Following current clinical guidelines and best practices.

It ensures accountability and patient safety without requiring burdensome, one-size-fits-all lists of permitted activities.

Aren't Pharmacists Already Overworked?

Pharmacists across Alaska are essential healthcare providers, and workforce pressures are real. However:

- **Offering patient care services under SB 147/HB 195 is not required** — pharmacies can choose whether to offer expanded services based on their staffing, capacity, and community needs.
- **Flexibility is key** — not every pharmacy will provide the same services.
- **Team-based care improves efficiency** — pharmacists helping with minor and preventive care frees up physician and clinic time for more complex cases.
- Adding these authorities will **help address burnout** by enabling pharmacists to focus on meaningful clinical work, practice at the top of their education and training, and better contribute to team-based patient care.

SB 147 and HB 195 simply remove legal barriers so pharmacies that are ready and able can offer expanded services safely.

Is This New Territory?

No.

- More than a dozen other states allow pharmacists to provide direct patient care services under a standard of care model.
- Pharmacists already prescribe certain therapies in Alaska today (e.g., vaccines, COVID-19 treatments) through limited authorities.
- Studies have shown pharmacist-provided care improves patient outcomes, reduces ER visits, and increases access, especially in rural and underserved areas.
- Federal models already recognize pharmacists' prescriptive authority. Under the PREP Act, pharmacists were authorized to independently prescribe and administer COVID-19 tests, vaccines, and treatments during the public health emergency. The MAT Act further allows pharmacists to assist with prescribing medications for opioid use disorder. Additionally, pharmacists within the federal healthcare system, including the U.S. Public Health Service and the Veterans Health Administration, have been providing patient care services with prescriptive authority since 1979.

This is a **proven model** for strengthening healthcare systems, not an untested idea.

Why Is This Important for Alaska?

- Alaska faces critical healthcare workforce shortages.
- Patients often experience long delays or must travel great distances for basic care.
- Pharmacists are the most accessible healthcare professionals in many communities.
- Expanding pharmacist-provided services ensures more Alaskans can get timely, quality care closer to home.

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ORIGINAL RESEARCH

Expanding Access to Patient Care in Community Pharmacies for Minor Illnesses in Washington State

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Introduction: As the shortage of primary care providers widens nationwide, access to care utilizing non-physician providers is one strategy to ensure equitable access to care. This study aimed to compare community pharmacist-provided care for minor ailments to care provided at three traditional sites of care: primary care, urgent care, and emergency department, to determine if care provided by pharmacists improved access with comparable quality and reduced financial strain on the healthcare system.

Methods: Pharmacy data was provided from 46 pharmacies and 175 pharmacists who participated across five pharmacy corporations over a 3-year period (2016–2019). Data for non-pharmacy sites of care was provided by a large health plan, matching episodes of care for conditions seen in the community pharmacy. Cost-of-care analysis was conducted using superiority study design and revisit data analysis was conducted using noninferiority study design.

Results: Median cost-of-care across traditional sites of care was $277.78 higher than care provided at the pharmacies, showing superiority. Noninferiority was demonstrated for revisit care when the initial visit was conducted by a pharmacist compared to traditional sites.

Discussion: The authors conclude community pharmacist-provided care for minor ailments improved cost-effective access for patients with comparable quality and reduced financial strains on the healthcare system.

Keywords: patient access, community pharmacy, minor ailments, cost of care

Introduction

As the need for healthcare in the United States grows beyond capacity, it is imperative we find new healthcare delivery models to ensure equitable access to efficient healthcare options. We are currently facing a scarcity of healthcare providers, and in 2012 it was projected that by the year 2025 we will face a shortage of primary care physicians (PCP), reaching up to 52,000.[1] Despite the roles of nurse practitioners and physician assistants expanding, it is estimated nearly 1 million office visits per year needed by patients will go unmet due to lack of provider availability.[1] Patients living in low-income neighborhoods with less access to retail clinics or urgent care centers, who are facing long wait times for primary care (PC) appointments, or who work during hours when PC office hours exist often end up in the emergency department (ED) for medical treatment.[2] For reference, in the United States a PCP visit is an outpatient visit with a provider for services, such as chronic medical conditions, annual wellness visits, and same-day appointments for urgent needs that are manageable by a general provider in an outpatient setting during normal daytime business hours. Urgent Care visits are open extended hours (evenings and weekends) and are the site of care for conditions that cannot wait until a PCP visit can be scheduled or that may need services more advanced than provided by a PCP, such as X-ray or casting broken bones but are not considered life threatening. An ED visit is for emergency care needs that may be life threatening, require emergency surgery, or require advanced imaging for conditions such as stroke or heart attack. According to the National Association of Community Health Centers, Inc., more than one-third of all ED visits

Received: 19 December 2023
Accepted: 15 April 2024
Published: 3 May 2024

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are avoidable and could be treated in an ambulatory setting with a savings of more than $18 billion dollars annually.[3] ED treatment of urinary tract infections (UTIs) alone accounts for approximately $4 billion per year in healthcare costs.[4]

It has been suggested that diversification of roles within the healthcare delivery system, along with workforce development efforts, can be capitalized upon to increase population health in a more efficient way.[5,6] Activities such as motivational interviewing and helping patients set goals for lifestyle modifications have been shown to greatly increase population health.[5] In addition, non-physician healthcare professionals can help fill the demand-capacity gap by utilizing technology and standing orders to provide patient care.[6]

Throughout the years, pharmacists' roles have evolved from solely medication dispensing functions to providing medication therapy management and other healthcare services designed to improve patient outcomes. Pharmacists have been integrated into health system care teams to help improve patient outcomes and forge innovative health delivery models through interprofessional collaborations in the community setting.[7] Key elements of pharmacy education prepare pharmacists to be medication experts, solve therapeutic problems, provide patient-centered care, advance population health, collaborate interprofessionally, and advocate for patients at the highest level.[8] The potential for pharmacists' clinical expertise to improve patient outcomes has been well studied in a range of scenarios, from examination of pharmacist-recommended clinical interventions implemented by a provider to direct pharmacist-provided care in managing acute and chronic disease states.[7]

In Rear Admiral Scott Giberson's Report to the US Surgeon General in 2011 titled "Improving Patient and Health System Outcomes through Advanced Pharmacy Practice", he outlines 55 peer-reviewed articles showing improved clinical outcomes for patients when pharmacists were involved in patient care delivery.[7] One systematic review of 12 randomized controlled trials including 2,060 patients showed pharmacist-directed or pharmacist-collaborative care was correlated with a significant decrease in all-cause hospitalizations (11 studies, 2026 patients) and heart failure hospitalizations (11 studies, 1977 patients).[9]

In the community pharmacy setting, both in the US and around the world, pharmacists have utilized Collaborative Practice Agreements (CPAs) and other prescriptive authority avenues to provide patients with access to affordable and expeditious screenings, treatment initiation, and medication management for many minor or acute ailments and chronic health conditions. Approximately 90% of all Americans live within 5 miles of a community pharmacy, with those residing in metropolitan areas living less than 2 miles from a pharmacy.[10] Proximity, walk-in patient access and extended hours make pharmacists the most accessible healthcare professionals in many geographic areas.

Point of Care (POC) testing and the ability for pharmacies to obtain a Clinical Laboratory Improvement Amendment (CLIA) Certificate of Waiver opened the door for pharmacists to enhance patient care access by providing screenings and prompt treatment initiation within the same pharmacy visit. Various CLIA-waived tests utilized in the outpatient and community pharmacy settings include those for Group A Streptococcus, influenza, Hepatitis C, HIV, hemoglobin A1c, cholesterol, and Helicobacter Pylori.[11,12] As of 2020, more than 15,600, or approximately 28% of US pharmacies, held CLIA-waiver certificates.[13]

Not all conditions appropriate for pharmacist-initiated treatment require testing. There are a number of minor ailments that can be effectively treated in a community pharmacy setting based on patient reported symptoms and examination. Uncomplicated UTIs are among these minor ailments. Since 2010, pharmacists around the world have provided patient care related to uncomplicated UTIs, with positive perceptions reported by patients and pharmacists.[14] Infectious disease guidelines do not require urine testing for uncomplicated UTI treatment, though pharmacists might consider criteria for referral prior to treatment initiation, such as patients who report flank pain, fever, chills, pregnancy, and others.[15] Treatment guidelines provide a framework for assessment and treatment with antimicrobial therapy or referral for complications when appropriate.[12] Many patients have reported seeking care at a pharmacy sooner than they would have with a general practitioner due to increased patient access to a community pharmacy.[12] Pharmacists have demonstrated improved antimicrobial stewardship for UTIs in ED and long-term care settings. Additionally, pharmacists are engaged in work to improve outpatient stewardship programs, which is promising for the future of antimicrobial stewardship of pharmacist-initiated interventions in the outpatient setting.[16–19]

Although some conditions appropriate in a community pharmacy setting do not require the use of CLIA-waived POC tests, like uncomplicated UTIs, others can utilize POC technology to assist in determining if and when medication therapy should be initiated. A literature review found positive evidence demonstrating pharmacist involvement in POC testing and, when

appropriate, initiation of therapy to be successful in improving patient access to safe and effective care for influenza, Group A Streptococcus, Helicobacter pylori (H. pylori), Hepatitis C, and human immunodeficiency viruses (HIV).[20]

As new patient-centered care delivery models are implemented in the community pharmacy setting, we should seek to ensure these care models meet patient needs and are sustainable. Correspondingly, the goals of this study were to conduct a cost-of-care and quality-of-care analysis by comparing pharmacist-provided care for selected conditions to care provided at three traditional sites of care: PCP, urgent care, and ED. The cost-of-care analysis includes median and mean costs from all sites of care for initial care and any revisit care needed for the same episode-of-care. The quality analysis compared patient revisit data as a measure to ascertain if the care provided by community pharmacists reduced the access burden on the traditional healthcare system. In addition, data was collected on the feasibility of offering services in a community pharmacy setting, which included training, supplies needed, space requirements, documentation, workflow, and compliance with prescriptive authority regulations. Data for traditional sites were collected from a large health plan in Washington state and compared to data collected from participating community pharmacies in Washington state over a 3-year period. Community pharmacies utilized in the study include drugstores, groceries, multidepartments, and big boxes. Washington state was selected for the study due to pharmacist delegated prescriptive authority through collaborative drug therapy agreements having been in place since 1979, with no limitation on patient eligibility, disease state, or medication prescribed. Many pharmacists included in the study were experienced in providing patient care services such as for immunizations and POC testing. In addition, pharmacists in Washington state are recognized as medical providers with billing authority, although at the time of this study the authority was new and not implemented in any of the study pharmacy locations.

Materials and Methods

Community Pharmacy Patient Visit Data

Data collected during monthly pharmacy site visits were used for pharmacy sites of care. Individuals under age 18 were excluded from the study. Cost per condition were set within each pharmacy company, of which it became the out-of-pocket cost for a patient to receive the service at that location. Participating study pharmacies did not bill patient insurance. The research team had no influence or decision-making authority as to the price each pharmacy organization set as their price for patient care services. Pharmacy mean and median cost per condition were both calculated; however, mean was utilized in the analysis due to cost data distribution having little variability.

Revisit data from pharmacy claims was collected through 30-day follow-up telephonic calls conducted by researchers. Data were reliant on patient-reported information, which could impact the accuracy of the data. Patient-reported data collected regarding revisits included when the revisit occurred, site of care for the revisit, and if symptoms resolved after the revisit. Utilizing the patient-reported site of care for a revisit, median cost from the traditional site of care data was utilized, in addition to the original pharmacy cost, to complete the total cost of care for those patient encounters. Difference in proportion of revisits between traditional sites of care and pharmacies was compared as a measure of quality with a noninferiority test using an equivalence margin of 20%.[21] Confidence intervals on the difference in the proportion of revisits were established with Wilson intervals.[22] Noninferiority testing was performed using a $1-2\alpha$ confidence interval with an α level of 0.05.[23]

Traditional Sites of Care Patient Visit Data

Health plan episodes claim lines data were used to obtain cost and visit data for traditional sites of care. Primary diagnosis codes were categorized into the conditions considered in this study. Claims for individuals under age 18 were removed from consideration. For cost comparison, only the cost of anchor claims and computed total cost by episode, condition, and provider site of care were considered. An anchor claim was categorized as being the first claim for the condition for that patient in a previous 30-day window of time. Episode costs included that of the anchor claim and any revisit claims within 30-days post-anchor claim organized by the condition and traditional provider site of care. Cost distributions were right-skewed, and thus median costs were used in place of mean costs to reflect cost expectations for a typical episode. Bootstrapping was employed to construct 95% confidence intervals on the median cost. Differences between the median episode cost from each traditional site of care setting and the fixed pharmacy cost along with 95% bootstrap confidence intervals were computed by subtracting a fixed pharmacy cost.

Data for traditional sites of care claims were available only up to monthly resolution, limiting the accuracy to which revisits could be identified. We defined a member revisit as a subsequent episode, as determined through increasing episode number that met the condition of having a claim date either in the same month or 1 month later. We summarized the follow-up visits by constructing a table of episode counts as well as computing the proportion of episodes that were follow-ups by traditional site of care and condition.

The cost-of-care analysis was conducted using superiority study design, comparing community pharmacies to traditional sites of care. The revisit data analysis was conducted using noninferiority study design, comparing the pharmacy setting to traditional sites of care.

There were several steps undertaken in the design of the project, in addition to data analysis methods. These included training programs in partnership with the Washington State Pharmacy Association (WSPA), entering into agreements with community pharmacy organizations to participate in the research project, and to develop a Physician Advisory Committee (PAC) to ensure standards of care are met and to incorporate the PACs feedback into live training sessions.

The WSPA has an online refresher training certificate program titled "Clinical Community Pharmacist", which was made accessible to pharmacists participating in this study. The certificate program focuses on ailments and conditions often seen in a community pharmacy setting. This includes both continuation of care for previously diagnosed conditions, as well as the assessment and initiation of treatment for certain ailments. Conditions included in the research project can be found in Supplemental Box 1.

The research team approached several community pharmacy leaders to recruit sites for participation in the study. A mix of community pharmacies was desired as well as representation from varied regions in Washington state. Five large pharmacy organizations participated in the study with pharmacies located in southwest Washington, the Seattle/Puget Sound area, and the Spokane/Eastern Washington area. Pharmacies included two grocery chains, one drugstore chain, one multidepartment chain, and one warehouse club company. Overall, a total of 46 pharmacies participated and 175 pharmacists were trained.

Live training was created to facilitate participating pharmacists' application of the online certificate modules through patient case discussions aimed at increasing confidence in the clinical decision-making process. The operational portion of the training included patient study consent and federally mandated health privacy forms, documentation requirements for data collection, and partner-specific operational components of implementing a new patient-care service. The clinical portion of the training was dedicated to patient case discussions related to each condition. Activities ranged in complexity and each activity emphasized the decision-making process to determine if a patient met criteria for pharmacist intervention or if referral to a different care provider was appropriate.

Pharmacists were required to complete the online training modules prior to attending the live session. Live training sessions conducted by the researchers were held either onsite at the pharmacy partner location in a large meeting room or on campus at the researcher's university, depending on geographic location and space availability (grant funds supported training module costs, however, each pharmacy organization remained responsible for pharmacist wages). While there is no legal requirement in Washington state for pharmacists to receive additional training to provide these services, researchers required the training to participate in the study to minimize gaps in knowledge based on the length of time since completing pharmacy education and utilization of the knowledge and/or skill set in practice prior to the study.

Researchers shared best practices for documentation, record storage, and patient care workflow; however, implementation of patient care service was customized by each organization. Prescriptive authority Collaborative Drug Therapy Agreements (CDTAs) were the responsibility of each pharmacy organization, and the agreements were signed between each pharmacist and a delegating prescriber, as required in Washington state. Some variability in CDTAs exist, as the delegating prescriber customizes the agreement to meet their standard of care and referral criteria. Each pharmacy organization included policies and procedures to ensure a patient's primary care provider, if they had one, was notified of the care provided by the pharmacist. Having CDTAs in place was a requirement for each organization to participate in the study as, without CDTAs, the pharmacists would not have the authority to prescribe treatment, when needed, based on their assessment of the patient and would have been required to refer all patients needing prescription treatment to a traditional site of care. Study recruitment began during the initial patient intake process at each pharmacy location. Consent into the study was not required for patients to receive care from the pharmacist, as determined by the IRB review.

Researchers visited pharmacies every 4 weeks over a period of 3 years to collect data, as documentation was in paper format. Data collected included patient demographics, insurance status, health history, and condition-specific information including treatments recommended and/or prescribed (Supplemental Exhibit 1). During each data collection visit, pharmacists were able to ask questions of the researchers to improve patient recruitment or patient care. For patients who consented to participate in the study, a 30-day follow-up phone call was conducted by researchers to assess the clinical outcome of the patient, either positively or negatively, and if additional care was sought (and where) for the condition (Supplemental Exhibit 2). Initial visit and 30-day follow-up data were stored utilizing REDCap electronic data tools hosted at the primary investigator's university.[24,25]

This human subject research project was reviewed and approved by the primary investigator's university Institutional Review Board (IRB) which complies with the Declaration of Helsinki.

Results

Data provided by 4 of the 5 pharmacy companies show 977 patients utilized the service during the 3-year study period ending December 2018, while 506 patients across all 5 pharmacy companies consented to participate in the study (one company chose not to provide aggregate service use data for patients not consented to the study). Of the 506 patients consenting to the study, 10 met referral criteria and were not treated by a pharmacist, resulting in 496 patients being included in comparison data. Patient demographics of pharmacies and traditional sites of care were collected for comparison (Supplemental Exhibit 3).

The total number of patients included from health plan data for comparison for all conditions was 84,555: with hormonal contraception, asthma, UTI, allergies, and headache being the top five (Table 1). For each of the ten conditions

Table 1 Initial and Revisit Care by Condition, Initial Site of Care, and Revisit Site of Care

Condition	Initial Site of Care	Number Receiving Initial Care	Cost of Initial Care per Patient	N (%) Revisit Care	Revisit Site of Care	N (%) Revisit Site of Care
Hormonal Contraception	Emergency Room	3	$53.66	2 (66.67%)	Emergency Room	1 (50.0%)
					Primary Care	1 (50.0%)
	Primary Care	21,806	$112.26	1485 (6.81%)	Primary Care	1485 (100%)
	Urgent Care	11	$154.44	1 (9.09%)	Urgent Care	1 (100%)
	Pharmacy	179	$24.00	0 (0%)		
Asthma	Emergency Room	1271	$1472.95	626 (49.25%)	Emergency Room	173 (27.6%)
					Primary Care	432 (69.0%)
					Urgent Care	21 (3.4%)
	Primary Care	17,033	$149.94	2890 (13.97%)	Emergency Room	290 (10.03%)
					Primary Care	2524 (87.34%)
					Urgent Care	76 (2.63%)
	Urgent Care	933	$189.97	185 (19.83%)	Emergency Room	18 (9.73%)
					Primary Care	119 (64.32%)
					Urgent Care	48 (25.95%)
	Pharmacy	26	$23.00	0 (0%)		

(Continued)

Table 1 (Continued).

Condition	Initial Site of Care	Number Receiving Initial Care	Cost of Initial Care per Patient	N (%) Revisit Care	Revisit Site of Care	N (%) Revisit Site of Care
Urinary Tract Infection	Emergency Room	1636	$962.70	362 (22.13%)	Emergency Room	106 (29.28%)
					Primary Care	240 (66.30%)
					Urgent Care	16 (4.42%)
	Primary Care	14,971	$121.21	1411 (9.42%)	Emergency Room	97 (6.87%)
					Primary Care	1270 (90.01%)
					Urgent Care	44 (3.12%)
	Urgent Care	1762	$151.23	168 (9.53%)	Emergency Room	12 (7.14%)
					Primary Care	77 (45.83%)
					Urgent Care	79 (47.02%)
	Pharmacy	151	$30.00	6* (3.97%)	Emergency Room	0 (0%)
					Primary Care	3 (50%)
					Urgent Care	3 (50%)
Allergic Rhinitis	Emergency Room	58	$634.11	13 (22.41%)	Emergency Room	8 (61.5%)
					Primary Care	4 (30.8%)
					Urgent Care	1 (7.7%)
	Primary Care	17,683	$95.77	6463 (36.55%)	Emergency Room	2 (0.03%)
					Primary Care	6454 (99.86%)
					Urgent Care	7 (0.11%)
	Urgent Care	401	$150.61	23 (5.74%)	Primary Care	14 (60.9%)
					Urgent Care	9 (39.1%)
	Pharmacy	14	$19.00	0 (0%)		
Headache	Emergency Room	5412	$629.65	1338 (24.72%)	Emergency Room	517 (38.64%)
					Primary Care	737 (55.08%)
					Urgent Care	84 (6.28%)
	Primary Care	11,149	$148.48	1812 (16.25%)	Emergency Room	371 (20.47%)
					Primary Care	1413 (77.98%)
					Urgent Care	28 (1.55%)
	Urgent Care	611	$167.70	124 (20.29%)	Emergency Room	50 (40.32%)
					Primary Care	54 (43.55%)
					Urgent Care	20 (16.13%)
	Pharmacy	11	$23.75	0 (0%)		

(*Continued*)

Table 1 (Continued).

Condition	Initial Site of Care	Number Receiving Initial Care	Cost of Initial Care per Patient	N (%) Revisit Care	Revisit Site of Care	N (%) Revisit Site of Care
Shingles	Emergency Room	209	$548.04	86 (41.45%)	Emergency Room	25 (29.07%)
					Primary Care	57 (66.28%)
					Urgent Care	4 (4.65%)
	Primary Care	3586	$140.52	281 (7.84%)	Emergency Room	17 (6.05%)
					Primary Care	261 (92.88%)
					Urgent Care	3 (10.7%)
	Urgent Care	463	$154.44	56 (12.1%)	Emergency Room	2 (3.57%)
					Primary Care	45 (80.36%)
					Urgent Care	9 (16.07%)
	Pharmacy	7	$30.00	1 (14.29%)	Urgent Care	1
Vaginal Yeast Infection	Emergency Room	41	$922.59	13 (31.71%)	Emergency Room	8 (61.54%)
					Primary Care	4 (30.77%)
					Urgent Care	1 (7.69%)
	Primary Care	2534	$119.44	193 (7.61%)	Emergency Room	1 (0.52%)
					Primary Care	192 (99.48%)
	Urgent Care	121	$153.24	11 (9.09%)	Primary Care	1 (9.09%)
					Urgent Care	10 (90.91%)
	Pharmacy	22	$30.00	1 (4.55%)	Urgent Care	1
Human, Canine, Feline Bite	Emergency Room	416	$621.22	177 (42.55%)	Emergency Room	148 (83.62%)
					Primary Care	27 (15.25%)
					Urgent Care	2 (1.13%)
	Primary Care	444	$162.80	60 (13.51%)	Emergency Room	19 (31.67%)
					Primary Care	39 (65.0%)
					Urgent Care	2 (3.33%)
	Urgent Care	99	$190.00	11 (11.11%)	Emergency Room	4 (36.36%)
					Primary Care	1 (9.09%)
					Urgent Care	6 (54.55%)
	Pharmacy	7	$28.00	1 (14.29%)	Emergency	1

(*Continued*)

Table 1 (Continued).

Condition	Initial Site of Care	Number Receiving Initial Care	Cost of Initial Care per Patient	N (%) Revisit Care	Revisit Site of Care	N (%) Revisit Site of Care
Burn	Emergency Room	15	$133.86	2 (13.33%)	Emergency Room	1 (50.0%)
					Primary Care	1 (50.0%)
	Primary Care	200	$140.52	17 (8.5%)	Primary Care	17 (100%)
	Urgent Care	25	$154.44	1 (4%)	Primary Care	1 (100%)
	Pharmacy	15	$29.00	0 (0%)		
Swimmer's Ear	Emergency Room	5	$397.31	2 (40.0%)	Emergency Room	2 (100%)
	Primary Care	85	$140.74	13 (15.29%)	Primary Care	12 (92.31%)
					Urgent Care	1 (7.69%)
	Urgent Care	14	$150.84	1 (7.14%)	Urgent Care	1 (100%)
	Pharmacy	15	$30.00	3[†] (20%)	Emergency Room	1
					Primary Care	2
Anaphylaxis	Primary Care	13	$109.75	2 (15.38%)	Primary Care	2 (100%)
	Pharmacy	2	$23.00	0 (0%)		

listed, cost-of-care was significantly lower when provided by a community pharmacist than in the comparator traditional sites of care. The median overall cost of care for all conditions across all traditional sites of care combined was $277.78 higher than care provided at the community pharmacies (Figure 1). The largest differences in cost of care between traditional sites and community pharmacy, in order of largest to smallest, are EDs, urgent care, and primary care

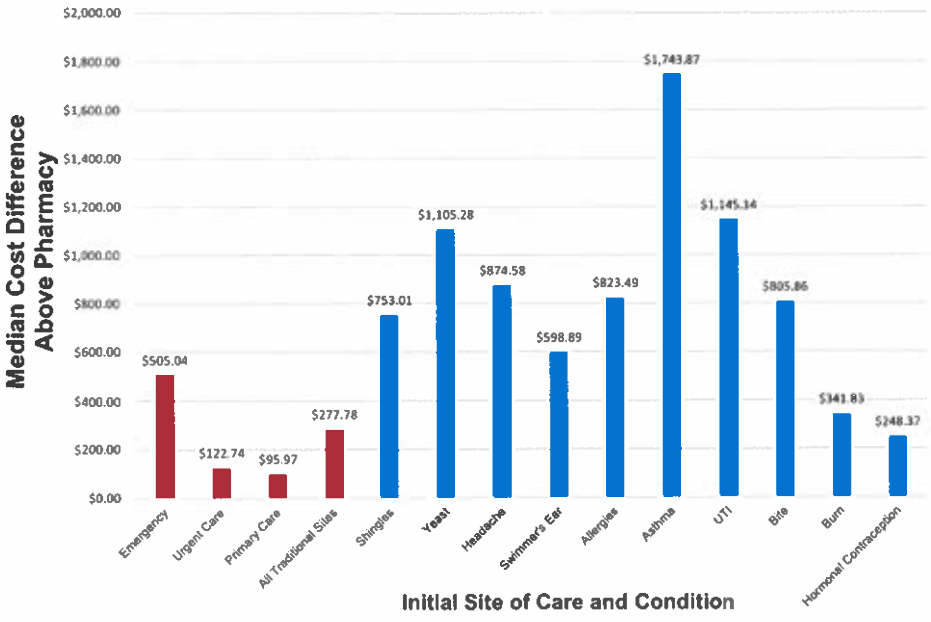

Figure 1 Traditional Site of Care Median Cost Difference Above Pharmacy by Initial Site of Care and Condition.

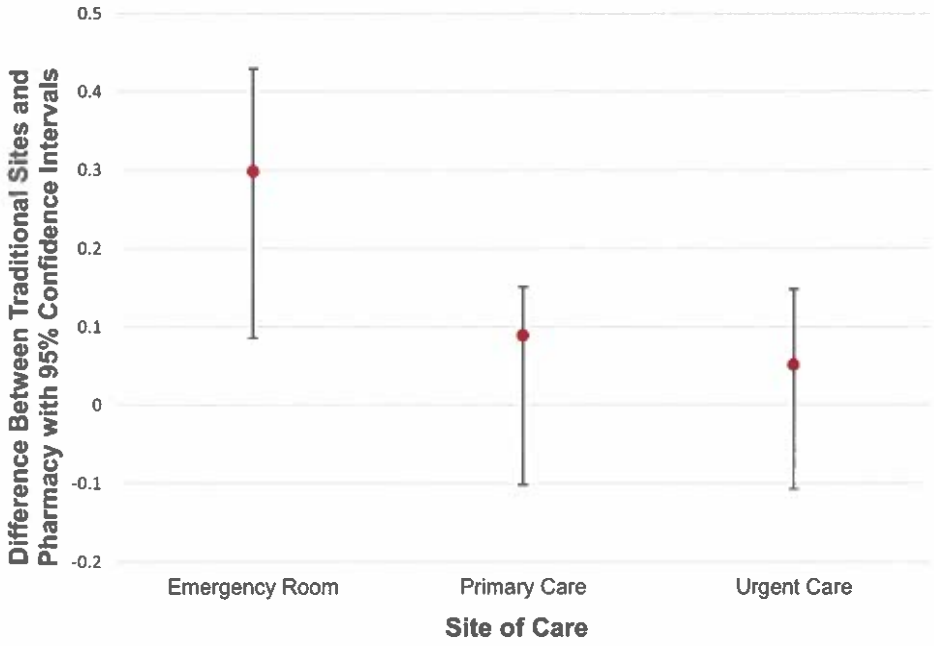

Figure 2 Traditional Sites versus Pharmacy Revisit Noninferiority Analysis.

providers at $505.04, $122.74, and $95.97 respectively (Figure 1). Further breakdown of the median cost of care difference by condition shows asthma, UTI, and yeast infection as the three conditions with the highest median difference of cost (Figure 1).

Patient revisit data was collected to compare the number of patients with an initial visit at a community pharmacy needing to seek additional care to those seen initially at a traditional site of care. The number of patients needing a revisit by condition and the site of care for the revisit can be found in Table 1. The traditional site of care difference in proportion of revisits with 95% CI by condition can be found in Figure 2, which shows noninferiority was found comparing community pharmacy to ED, primary care, and urgent care using a 20% margin (lower CI above −0.2). Further breakdown by conditions within the traditional sites of care show noninferiority in all 11 conditions comparing pharmacy to ED and in 8 of 11 conditions compared to urgent care and primary care (Supplemental Exhibit 4). The total cost of care, including revisits by condition and initial site of care, can be found in Table 2.

Table 2 Total Cost of Care (Initial and Revisit) by Condition and Initial Site of Care

Condition	Initial Site of Care	Total Cost of Care
Hormonal Contraception	**All Traditional Sites**	**$2,616,827.84**
	Emergency Room	$326.90
	Primary Care	$2,614,647.66
	Urgent Care	$1,853.28
	Pharmacy	**$716**

(Continued)

Table 2 (Continued).

Condition	Initial Site of Care	Total Cost of Care
Asthma	**All Traditional Sites**	**$3,263,644.50**
	Emergency Room	$2,195,703.25
	Primary Care	$837,224.72
	Urgent Care	$230,716.53
	Pharmacy	**$598**
Urinary Tract Infection	**All Traditional Sites**	**$4,076,441.11**
	Emergency Room	$1,708,533.48
	Primary Care	$2,068,607.63
	Urgent Care	$299,300.00
	Pharmacy	**$5,347.32**
Allergic Rhinitis	**All Traditional Sites**	**$2,419,398.81**
	Emergency Room	$42,384.95
	Primary Care	$2,313,922.98
	Urgent Care	$63,090.88
	Pharmacy	**$266**
Headache	**All Traditional Sites**	**$6,105,398.51**
	Emergency Room	$3,856,704.04
	Primary Care	$2,103,375.89
	Urgent Care	$145,318.58
	Pharmacy	**$261.25**
Shingles	**All Traditional Sites**	**$767,544.36**
	Emergency Room	$136,868.76
	Primary Care	$550,360.44
	Urgent Care	$80,315.16
	Pharmacy	**$364.44**
Vaginal Yeast Infection	**All Traditional Sites**	**$392,547.82**
	Emergency Room	$45,837.91
	Primary Care	$326,516.03
	Urgent Care	$20,193.88
	Pharmacy	**$813.24**

(Continued)

Table 2 (Continued).

Condition	Initial Site of Care	Total Cost of Care
Human, Canine, Feline Bite	**All Traditional Sites**	**$468,556.94**
	Emergency Room	$355,143.68
	Primary Care	$90,815.58
	Urgent Care	$22,597.68
	Pharmacy	**$817.22**
Burn	**All Traditional Sites**	**$36,776.64**
	Emergency Room	$2,282.28
	Primary Care	$30,492.84
	Urgent Care	$4,001.52
	Pharmacy	**$435.00**
Swimmer's Ear	**All Traditional Sites**	**$18,846.39**
	Emergency Room	$2,781.17
	Primary Care	$13,802.62
	Urgent Care	$2,262.60
	Pharmacy	**$1128.79**
Anaphylaxis	**All Traditional Sites**	**$1,646.25**
	Primary Care	$1,646.25
	Pharmacy	**$46**
All Conditions	**All Traditional Sites**	**$20,167,629.17**
All Conditions	**Pharmacy**	**$10,793.26**

Discussion

This study quantitatively analyzed the cost-of-care difference between community pharmacies and traditional sites of care for several common conditions and assessed the impact on the healthcare system through revisit data. Data assessing the overall cost-of-care showed a statistically lower mean for patient care interventions provided by a pharmacist in a community pharmacy setting compared to the median cost from EDs, urgent care centers, and primary care. In addition, noninferiority was demonstrated related to the need to revisit care when the initial visit was conducted by a pharmacist compared to traditional sites of care. A sampling of patient comments documented during the 30-day follow up call were positive (Supplemental Exhibit 5). This, in addition to the number of patients who sought care at a community pharmacy, shows feasibility through patient demand as well as the ability to integrate the services into patient care workflows.

Patients in the study paid for services received at the community pharmacy out of pocket. If the 496 patients who received care at the pharmacy had sought care at traditional sites, using the aggregate median cost difference for all three traditional sites of care of $277.78, the additional cost to the healthcare system would have been approximately $138,000. In comparison, using the same aggregate median cost difference of $277.78, if the 84,555 patients who had sought care initially at a traditional site of care had been seen at a community pharmacy, the cost savings would be approximately $23,500,000. The potential cost savings to the healthcare system are staggering. As demonstrated, expanded opportunities for patients to receive clinical care in accessible, community-based settings may enhance sustainability of the healthcare system and, in turn, lower costs for patients and public health programs. As can be seen in the demographic

data (Supplemental Exhibit 3), more women utilized community pharmacies than men, with hormonal contraception and UTI being the two most common conditions. While the overall median cost difference for hormonal contraception was the lowest of the services evaluated, the median cost difference for UTIs was the second highest. The majority of patients seen for a UTI at a traditional site of care in the study utilized the primary care setting; however, a 2015 report by the Washington Health Alliance listed UTIs as the fourth top condition both commercially-insured and Medicaid patients had unnecessarily sought care for at an ED in the five-county Puget Sound region.[26] This study found costs of ED care for a UTI to be more than $1000 higher than care provided by a community pharmacist. By anticipating these needs alone, UTI-associated interventions initiated by community pharmacists could reduce healthcare spending significantly.

The pharmacists included in the study all completed the WSPA Clinical Community Pharmacist Certificate Program, however the certificate is not a requirement for providing the services in Washington state. The confidence gained through the certificate program, as well as the 8-hr live training session, may have increased willingness to offer services to patients seeking care. The same certificate program and live training have been included in the required curriculum in the college of pharmacy where the primary investigator has been employed since 2015.[27] Recommendations made by the PAC (Supplemental Exhibit 6) were implemented in the live training, and recommendations related to the WSPA training were forwarded to them for consideration. As primary care physician shortage looms, and patient access to care is negatively impacted, pharmacy education programs around the country may have an opportunity to help address the gap in care by providing robust education for advanced patient care services and clinical decision making.

Community pharmacies offering patient care services might consider including methods to communicate with the PCP, allowing for a more complete patient health record and to decrease fragmentation of care. Ideally, community pharmacists would have access to electronic health records and input the care directly. For now, most community pharmacists fax or call a patient's PCP. This information may or may not be included in the patient's medical record at all, or in a way that is easily retrievable. One unexpected example of pharmacist and PCP collaboration was a patient informing the community pharmacist they were referred to the pharmacy to be seen for a UTI, as the PCP office stated the patient would be seen sooner than if making an appointment with them. While this is not currently commonplace, this level of trust and collaboration between the clinic and pharmacy is something to strive for in advancing collaborative, patient-centered care.

Conclusion

Overall, this research showed both feasibility and significant patient and public health cost savings when care was provided by a community pharmacist as compared to providers at traditional sites of care. Research findings support nationwide replication of this model of pharmacist-provided patient care resulting in increased access to healthcare for patients, particularly in rural and underserved areas. Enhanced patient outcomes along a continuum of care that is professional and longitudinal, not transactional, are efficient and improved access to timely healthcare.

The findings support the benefit to patients and public health programs of removing barriers to clinical care opportunities for patients in effective community-based settings, such as pharmacies. Due to systematic restrictions, patients in some states would not be able to access the care delivered in this research model. One important barrier, outside the scope of this project, is the lack of patient access to coverage for health interventions in emerging, community-based clinical care settings. Out-of-pocket costs may exacerbate barriers to patient access, especially for vulnerable populations, who may stand to benefit the most from enhanced access to care options.

Acknowledgments

We acknowledge the contributions of Chad Murphy, BS, PharmD, SVP/Chief Clinical Officer with Premera Blue Cross; Andrea Lazarus, PhD, Associate Dean for Research with the Washington State University College of Pharmacy and Pharmaceutical Sciences; Physician Advisory Committee members; Douglas Weeks, PhD; the Washington State Pharmacy Association; Bartell Drugs, Costco, Fred Meyer, Rosauers, and Yoke's Fresh Market pharmacy personnel.

Preliminary findings were presented in a short oral presentation at the 2023 NACDS TSE Conference.

Disclosure

Dr Julie Akers and Dr Jennifer Miller report grants from the National Association of Chain Drug Stores Foundation, during the conduct of the study. The authors report no other conflicts of interest in this work.

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