



# The Pharmacist's Role in Primary Care Settings: HIV Treatment and Prevention

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Caitlin Prather, PharmD, BCACP, AAHIVP, TTS  
Ambulatory Clinical Pharmacy Manager  
Inova Health System  
Fairfax, VA

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# Disclaimer

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## Our Mission

Through comprehensive healthcare workforce education, clinical consultation, and technical assistance, the AETC Program enhances the quality of HIV care outcomes for people with HIV and communities disproportionately impacted by HIV across the United States and its territories.

# Our Vision

To transform HIV care by strengthening systems of education, consultation, and support—advancing a unified, interdisciplinary workforce equipped to meet the evolving needs of patients and clinicians nationwide.

# Disclosures

Speakers Bureau for ViiV Healthcare

# Today's Objectives

- Describe the nuanced healthcare needs of adults with HIV
- Describe the specific contributions of a clinical pharmacist in an outpatient clinic setting
- Describe how pharmacist involvement improves patient satisfaction, adherence, and outcomes

# Why This Matters

- 1.2 million people with HIV in the US
  - Approximately 13% remain undiagnosed
  - Only ~65% achieve viral suppression
- HIV is now a chronic, manageable condition requiring lifelong management
- Workforce shortages in HIV specialists → increasing reliance on primary care
- Pharmacists uniquely positioned to:
  - Optimize therapy
  - Address adherence + access barriers
  - Provide preventive services (PrEP, vaccines)



# Nuanced Needs of Adults with HIV

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## HIV as a Chronic Disease

- Shift from acute care of opportunistic infections → chronic comorbidity management
- Life expectancy approaching that of the general population, though comorbidity-free life expectancy remains shorter
- Primary care integration is essential

## Comorbidity Burden

- Cardiovascular Disease
- Chronic Kidney Disease (CKD)
- Metabolic Syndrome and Obesity
- Osteoporosis
- Malignancy Risk

**People with HIV have  
~2x higher risk of CV  
disease and higher  
rates of CKD and  
osteoporosis**

**Earlier onset of  
multimorbidity (often  
10+ years earlier)**

Freiberg MS, Chang CC, Kuller LH, et al. HIV infection and the risk of acute myocardial infarction. *JAMA Intern Med.* 2013;173(8):614-622. doi:10.1001/jamainternmed.2013.3728

Triant VA, Perez J, Regan S, et al. Cardiovascular Risk Prediction Functions Underestimate Risk in HIV Infection. *Circulation.* 2018;137(21):2203-2214. doi:10.1161/CIRCULATIONAHA.117.028975

# Polypharmacy and Drug Interactions

- ART + chronic disease medications = DDI risks
- High-risk interactions:
  - Boosted regimens (ritonavir/cobicistat)
  - Acid suppressing agents
  - Anticoagulants
  - Capsid inhibitors (lenacapavir for treatment and prevention)
- Adherence complexity

Bortolussi-Courval É, Smyth E, Costiniuk C, et al. Prevalence of medication overload among older people with HIV: a MedSafer study. *BMC Infect Dis.* 2024;24(1):1204. Published 2024 Oct 25. doi:10.1186/s12879-024-10105-9

Heydari M, Foroozanfar Z, Bazmi S, Mohammadi Z, Joulaei H, Ansari G. The prevalence of antiretroviral drug interactions with other drugs used in women living with HIV and its association with HIV drug change and patient compliance. *BMC Infect Dis.* 2024;24(1):1123. Published 2024 Oct 8. doi:10.1186/s12879-024-09958-x

# Mental Health & Substance Use

- High prevalence of:
  - Depression
  - Anxiety
  - Substance use disorders
- Impact on:
  - Retention in care
  - Viral suppression

**Depression prevalence is ~20-40% in people with HIV**

**Strongly associated with:**

- **Poor adherence**
- **Missed appointments**
- **Increased mortality**

Orlando M, Burnam MA, Beckman R, et al. Re-estimating the prevalence of psychiatric disorders in a nationally representative sample of persons receiving care for HIV: results from the HIV Cost and Services Utilization Study. *Int J Methods Psychiatr Res.* 2002;11(2):75-82. doi:10.1002/mpr.125

Mills JC, Pence BW, Todd JV, et al. Cumulative Burden of Depression and All-Cause Mortality in Women Living With Human Immunodeficiency Virus. *Clin Infect Dis.* 2018;67(10):1575-1581. doi:10.1093/cid/ciy264

# Life factors impacting wellness

- Social Barriers
- Housing instability
- Insurance and access barriers
- Transportation
- Health literacy

# Social Barriers and Responsive Care Approaches

- Internalized vs external social barriers
- Impact on engagement
- Importance of:
  - Language
  - Trust-building
  - Community Awareness

# Prevention Needs

- STI screening
  - DoxyPEP
- Vaccinations
- Risk reduction counseling
- U=U concept



# Pharmacists Contributions in the Outpatient Clinic Setting

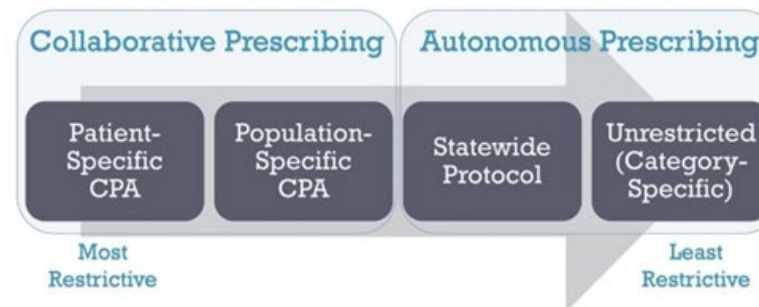
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# Pharmacist Roles Overview

- Pause for a moment and consider the following questions:
  - What does a pharmacist do?
  - What unique perspective can a pharmacist bring to the team?
  - What services could a pharmacist provide at my practice site?

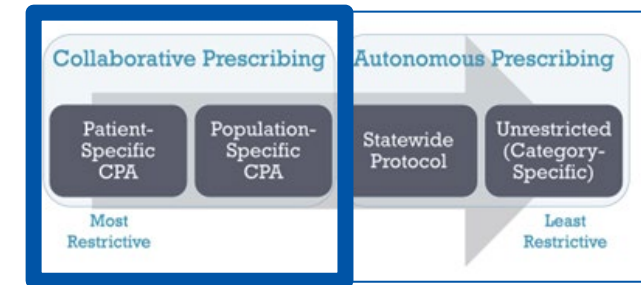
# Pharmacists

- Training
  - Often, but not always, has a Bachelor's Degree
  - Doctor of Pharmacy (4 years)
    - Graduates from graduation years prior to 2003 may have a BSPharm instead
  - PGY1 Residency (optional) for advanced clinical pharmacy training
  - PGY2 Residency (optional) for advanced clinical pharmacy training within a specialty (e.g. Ambulatory Care, Infectious Disease, Cardiology, etc.)
  - Additional board certifications and credentials (optional)
- Scope of Practice
  - Varies state by state
  - Some states have advanced practice credentials (e.g. CA, NC, NM) which may grant additional authority



National Alliance of State Pharmacy Organizations (<https://naspa.us/resource/swp/>)

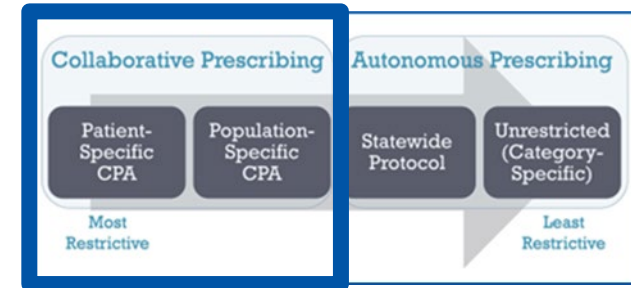
# Pharmacist Scope of Practice



- Collaborative Practice Agreements (CPAs)
  - An agreement between one or more prescribers and one or more pharmacists who work within the context of a defined protocol that is site and practice specific
  - Permits the pharmacist to assume responsibility for performing certain services that are otherwise outside of the usual scope, including selecting, initiating, monitoring, continuing, and adjusting medication regimens
  - All 50 US states now allow for collaborative practice agreements (CPAs) between pharmacists and other healthcare providers, such as physicians
  - Each state has its own regulations regarding CPAs, including requirements for continuing education, documentation, and liability insurance
  - Some states are also pushing for "provider status" for pharmacists, which would allow them to be reimbursed by insurance for clinical services provided under CPAs

# Pharmacist Scope of Practice

- Collaborative Practice Agreements (CPAs)
  - Patient-specific CPAs:
    - A relationship exists between the participating patient, the provider, and the pharmacist
    - Typically used for chronic disease state management for specific patients
    - Example: patient JP is referred by his PCP to the clinic pharmacist for the pharmacist to manage his diabetes
  - Population-specific CPAs:
    - A relationship exists between the participating provider(s) and the pharmacist, and services may be provided for broad patient populations regardless of if they were previously a patient of the collaborating provider(s)
    - Typically used for acute care and chronic disease state management for patients
    - Standing orders could be considered a form of a population-specific CPA
  - Example: treatment of influenza for all patients over the age of 18, who are not pregnant, and do not have any automatic referral criteria (certain temperature, HR, and BP thresholds)



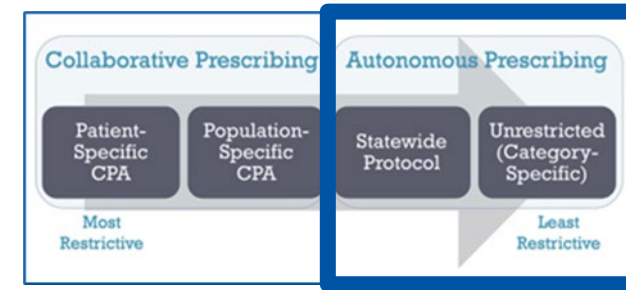
# Pharmacist Scope of Practice

## ■ Statewide Protocols

- A protocol published by an empowered state body that may be followed by any pharmacist who meets the qualifying criteria specified in the protocol. The protocol is the same for all qualified pharmacists in the state, and thus is not site or practice specific
- The statewide protocol permits the pharmacist to prescribe medications that are used for preventive care or for acute or self-limiting conditions that require no diagnosis or are easily diagnosed
- Services are not provided under the direct supervision of a collaborating physician

## ■ Unrestricted (Category-Specific)

- The authority to autonomously prescribe a medication without the supervision of a collaborating physician, for legitimate medical purposes and within the pharmacist's usual course of professional practice
- Not available in most states



# Pharmacist Settings/Types of Pharmacists

- Retail, community, and dispensing roles
  - Standard retail versus specialty pharmacies
  - Compounding
- Inpatient:
  - Centralized versus decentralized
  - Specialists versus generalists
- Outpatient clinic (a.k.a. ambulatory care)
  - Specialists versus generalists
- Managed care
- Research
- Academia
- ... & many other unique pharmacist roles!

# Ambulatory Care Pharmacist Services

- Injection teaching (e.g. teaching how to self-administer testosterone or estrogen)
- Medication counseling (e.g. patient switching from oral to injectable PrEP)
- Medication reconciliation
- Be a drug information resource
  - Check for drug interactions
  - Answer drug information questions from patients, providers, and clinic staff
- Complete prior authorizations and finding cost effective options for patients
- Assist with patient assistance program applications and management
- Management and administration (state specific) of long-acting injectable medications
- Medicare Annual Wellness Visits
- Order and administer vaccinations
- Practice under a CPA to see patients to manage chronic conditions
  - Common primary care conditions like diabetes, hypertension, dyslipidemia
  - Weight management
  - Smoking Cessation
  - PrEP and PEP
- And so much more...

# ART Optimization

- Regimen selection:
  - Resistance considerations
  - Comorbidities
  - Drug interactions
- Switching strategies:
  - Simplification
  - Long-acting injectables

# Medication Management

- Comprehensive med review
- Deprescribing where appropriate
- Interaction mitigation strategies
- Renal/hepatic dose adjustments

# Adherence Support

- Identifying barriers:
  - Cost
  - Stigma
  - Regimen complexity
- Tools:
  - Motivational interviewing
  - Adherence packaging
  - Long-acting ART

**Pharmacist interventions improve adherence by +2 to +59% versus usual care (median ~19%)**

# HIV Prevention Services

- Oral PrEP
- Long-acting injectable PrEP
- PEP
- STI screening and treatment

**Pharmacist-led PrEP  
programs improve  
initiation and persistence!**

# Chronic Disease Management

- HTN, diabetes, lipids
- Smoking cessation
- Weight management

**Pharmacists improve BP control, A1C, and lipids! Integrated care improves overall outcomes more than siloed HIV-only care.**

Nelson NE, Wilson M, Fine J, Hluhanich RM. Pharmacist Intervention Lowers HgbA1c in Diabetic Patients Regardless of HIV Status. *J Pharm Pract Res.* 2021;51(4):307-313. doi:10.1002/jppr.1722

Jackson IL, Ukwe CV. Clinical outcomes of pharmaceutical care intervention in HIV positive patients with hypertension: A randomized controlled study. *J Clin Pharm Ther.* 2021;46(4):1083-1094. doi:10.1111/jcpt.13400

Cope R, Berkowitz L, Arcebido R, Yeh JY, Trustman N, Cha A. Evaluating the Effects of an Interdisciplinary Practice Model with Pharmacist Collaboration on HIV Patient Co-Morbidities. *AIDS Patient Care STDS.* 2015;29(8):445-453. doi:10.1089/apc.2015.0018

## Transitions of Care

- Hospitalization → outpatient
- ART interruptions
- Re-engagement in care

## Addressing Barriers

- Insurance navigation
- Prior authorizations
- Patient assistance programs
- Coordination with case management

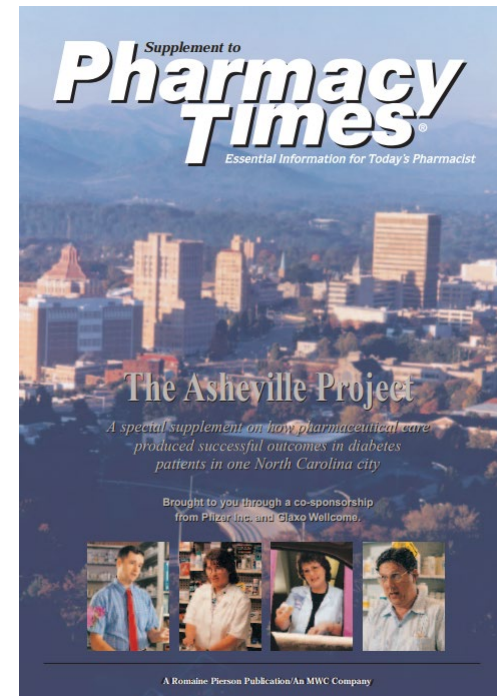


# Pharmacist Impact on Outcomes

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# Impact of Pharmacists on Patient Outcomes

- Positive impact by pharmacists is well established in the literature for primary care conditions, especially for diabetes, heart failure, dyslipidemia, and hypertension
- Asheville Project (1996)
  - Demonstrated clear positive clinical and economic outcomes
  - Has been replicated across many other locations and settings
  - Became the model for other medication therapy management (MTM) programs and community-based healthcare initiatives
  - Example impact on patients with diabetes:
    - Average A1C decreased at all follow-ups
    - More than 50% of participants showed improvements in lipid levels at every measurement
    - Total mean direct medical costs decreased by \$1,200 to \$1,872 per patient per year compared to baseline



Retrieved from [https://www.texaspharmacy.org/resource/resmgr/special\\_initiatives/mtm\\_theasvilleproject.pdf](https://www.texaspharmacy.org/resource/resmgr/special_initiatives/mtm_theasvilleproject.pdf)

# Clinical Outcomes

- Increased viral suppression rates
  - Viral suppression odds ~4x higher with pharmacist care
  - CD4 increase approx. 67 cells/mm<sup>3</sup>
- Faster time to suppression
- Reduced medication errors

# Adherence Outcomes

- Improved adherence rates
  - OR ~2.7 with pharmacist involvement
- Reduced treatment interruptions
- Increased persistence with PrEP

# Patient Satisfaction

- Improved trust and engagement
- Increased time for counseling
- Enhanced patient understanding

Kielly J, Kelly DV, Asghari S, Burt K, Biggin J. Patient satisfaction with chronic HIV care provided through an innovative pharmacist/nurse-managed clinic and a multidisciplinary clinic. *Can Pharm J (Ott)*. 2017;150(6):397-406.

Published 2017 Oct 6. doi:10.1177/1715163517734236

Hale A, Coombes I, Stokes J, Aitken S, Clark F, Nissen L. Patient satisfaction from two studies of collaborative doctor-pharmacist prescribing in Australia. *Health Expect*. 2016;19(1):49-61. doi:10.1111/hex.12329

# Health System Impact

- Reduced hospitalizations
- Cost savings
  - Cost: ~\$1,051 per patient
  - Savings: ~\$49,702 in future healthcare costs
  - ROI  $\approx$  \$3 saved per \$1 spent
- Improved clinic efficiency

# Implementation Models

- Embedded pharmacist in clinic
- Collaborative practice agreements
- Telehealth pharmacist services
- Retail, community, and specialty pharmacies

# Billing and Sustainability

- Incident-to billing
- Chronic care management
- Grant-funded positions
- Value-based care models

# Challenges and Barriers

- Reimbursement limitations
- Scope of practice variability
- Provider buy-in
- Workflow integration

# Ambulatory Care Pharmacist Services

| Potential Benefits   | Barriers  |
|--|---|
| <ul style="list-style-type: none"> <li>• Improve wait time for follow-up appointments</li> <li>• Increase number of patients able to be seen at one clinic</li> <li>• Improve patient and provider satisfaction</li> <li>• Save physician time and reduce burnout</li> <li>• Improve outcomes and quality of care</li> <li>• Provide unique perspective for optimal interprofessional collaboration</li> </ul> | <ul style="list-style-type: none"> <li>• Financial justification               <ul style="list-style-type: none"> <li>○ Billing practices vary state-by-state</li> <li>○ Generally, remains limited compared to physicians and APCs</li> <li>○ Credentialling by insurers</li> </ul> </li> <li>• Provider and management buy-in</li> <li>• Pharmacist scope of practice as defined by your state legislature</li> </ul> |

# Strategies for Expanding Access

- Embedding Pharmacists in Primary Care Teams
  - Clinical pharmacists can be integrated into multidisciplinary teams to initiate and manage therapy, monitor lab values, and provide medication counseling
  - This model improves continuity of care and reduces wait times for care
- Expanding Scope Through Collaborative Practice Agreements
  - CPAs allow pharmacists to initiate or adjust therapy under physician oversight, increasing access in underserved areas
  - Especially valuable in rural or politically restrictive regions where gender-affirming providers are scarce
  - As of August 2023, all 50 U.S. states allow pharmacists to enter into CPAs with physicians
  - The scope of CPAs varies significantly across practices and states
- Legislation Changes
  - North Carolina House Bill 67: Healthcare Workforce Reforms
    - Requires insurers to allow credentialing for Clinical Pharmacist Practitioners in NC

# Recommendations for Future Practice

## Train and Educate Pharmacists

- Cultural competency training: Incorporating health disparities, affirming communication, and trauma-informed care into pharmacy curriculum and continuing education
- Clinical education: Focus on HIV pharmacotherapy, monitoring, drug interactions, and monitoring guidelines

## Integrate Pharmacists into Care Teams

- Greater number of embedded pharmacists in clinics alongside peers
- Include pharmacists in multidisciplinary meetings (patient centered medical home)

## Advocate for policy and reimbursement

- Push for legislative support
- Engage payers as well as billing and compliance departments

## Monitor, Evaluate, and Report Outcomes

- Clinical metrics: viral suppression, adherence, side effects, and comorbid condition management
- Assess patient satisfaction: use surveys and feedback tools
- Publish: Share findings with stakeholders and journals to support expansion and funding of pharmacist led services

## Key Takeaways

- HIV care is complex and chronic.
- Pharmacists:
  - Improve adherence
  - Improve viral suppression
  - Improve patient experience
- Pharmacists don't just optimize medications; they optimize systems of care!

**Where are the biggest gaps in your current practice and how could a pharmacist help fill them?**

# Thank you!

## Contact Information

Email:

**caitlin.prather@inova.org**



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# AETC Promotional Ads

## HIV Care Tools



**Download the HIV Care Tools app**

HIV Care Tools is a no-cost app that provides key point-of-care reference materials and tools for HIV screening, prevention, and care.



## AETC National Newsletter



**Subscribe to the AETC Program newsletter**

Subscribe to the NASC newsletter to receive news on upcoming AETC Program trainings, new resources, and other important announcements.



# AETC Promotional Ads (Cont.)

## NCCC



### Clinician-to-clinician **no-cost consultations**

The NCCC provides timely and evidenced-informed responses to clinical questions related to prevention, screening and management of HIV and viral hepatitis C (HCV) as well as substance use disorders.



## NHC



### Clinician **no-cost CME & CNE credits**


The NHC provides 6 up-to-date modules, each with multiple lessons, and corresponding question bank topics. The in-depth antiretroviral medications section, clinical screening tools, and calculators support clinical decision-making.



# THANK YOU SO MUCH

**Regional Partner:**  
Howard University

 **Phone:** (202) 806-4311

 **Email:** [rodney.lewisjr@howard.edu](mailto:rodney.lewisjr@howard.edu)

 **Website:** [www.maaetc.org](http://www.maaetc.org)

## MidAtlantic AIDS Education and Training Center Contact Information

### Headquarters:

MidAtlantic AIDS Education and  
Training Center  
Department of Infectious  
Diseases and Microbiology,  
School of Public Health,  
University of Pittsburgh  
412-624-1895  
[maaetc@pitt.edu](mailto:maaetc@pitt.edu)  
[www.maaetc.org](http://www.maaetc.org)

Linda Rose Frank, PHD, MSN, ACRN, FAAN  
Principal Investigator and Program Director  
Professor of Public Health, Medicine & Nursing  
University of Pittsburgh