

# Introduction to Pharmacy: Pioneering Innovations & Patient-Centric Services

---

**Justin Ortique, PharmD, RPh, CPM**

**Executive Director - District of Columbia Board of Pharmacy**

# Collaborators





**More resources available at:**  
<https://dchealth.dc.gov/dcrx>

# Course Overview

- Course explores the evolving landscape of the pharmacy profession and the impact on care delivery. Participants will delve into various aspects of the future of pharmacy, including emerging trends and pharmacy access, as well as how to partner with pharmacists and leverage pharmacies for improved patient outcomes.
- This module will be a lecture style format with knowledge check questions at the end of the presentation.
- In order to receive completion credit, you must receive a passing score on the knowledge checks and complete the evaluation.
- This module will be approximately 60 minutes in length for viewing and completion of the evaluation.
- This module is approved for CME.

## Instructor

Lucas A. Berenbrok, PharmD, MS, BCACP

Associate Professor of Pharmacy & Therapeutics

University of Pittsburgh School of Pharmacy

## Clinical Advisors

Zarah Mayewski, PharmD

Former Vice President of Clinical Services, Cureatr

Dhiren Patel, PharmD

Co-Founder and General Partner, Taurus Health

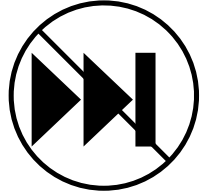
# Conflict of Interest

- Dr. Berenbrok is part owner of the consulting company, Embarx, LLC.
- The advisors have no interests to declare.

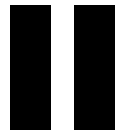
# Anti-discrimination Policy

The **instructor and advisors** have agreed to our anti-discrimination policy that prohibits the inclusion of discriminatory language, graphics, or references on the basis of race, gender identity, age, color, national origin, physical or mental disability, or religion.

# Important Information



Allow the video to progress at the current settings.



The video can be paused and resumed later.

# Pharmacy: Pioneering Innovations & Patient-Centric Services

---

Lucas A. Berenbrok, PharmD, MS, BCACP

Associate Professor, University of Pittsburgh School of Pharmacy



# Learning Objectives

1. Define the evolving role of pharmacists as accessible providers of healthcare.
2. Identify opportunities for collaboration with other healthcare providers.
3. Assess the role of pharmacies in addressing healthcare disparities and meeting unmet needs in local communities.
4. Identify innovative programs and pharmacy services that address patient medication management needs and improve public health.
5. Recognize the pharmacist's impact on quality care, patient outcomes, and interprofessional teamwork.

# Define the Evolving Role of Pharmacists as Accessible Providers of Healthcare

---

Learning Objective 1

# Pharmacy in the News

## *the GOOD*

- Novel vaccines (e.g., COVID-19 and RSV)
- Test and Treat for infectious diseases (e.g., influenza and group A strep)
- Newly approved over-the-counter (OTC) products (e.g., naloxone, norgestrel, hearing aids)



# Pharmacy in the News (cont.)

*the BAD*



- Workplace and well-being
- Understaffing
- Medication recalls/shortages
- Medication costs

# Pharmacy Workplace and Well-Being Reporting (PWWR)

**Themes** (June 30, 2023)

## Positive

- Communication, feedback, psychological safety
- Preventing errors and improving quality

## Negative

- Lack of staffing
- Lack of support staff
- Lack of training time
- Increase in demands

# Evolving Roles

**Clinician**

**Dispenser**

**Business Person**

**Patient Counselor**

**Physician  
Supporter**

# Community Pharmacy Practice is Transforming

From *Convenience* to *Health*



# Identify Opportunities for Collaboration with Other Healthcare Providers

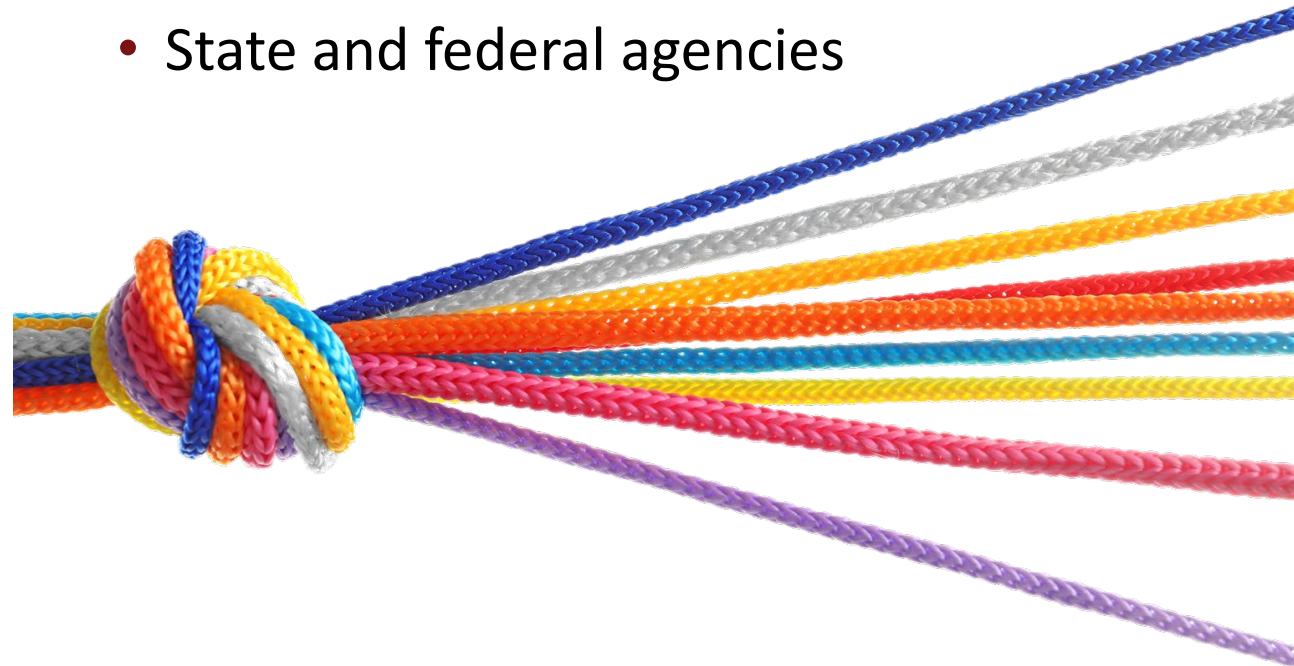
---

Learning Objective 2



## As Collaborators, Pharmacists Can Be Found In:

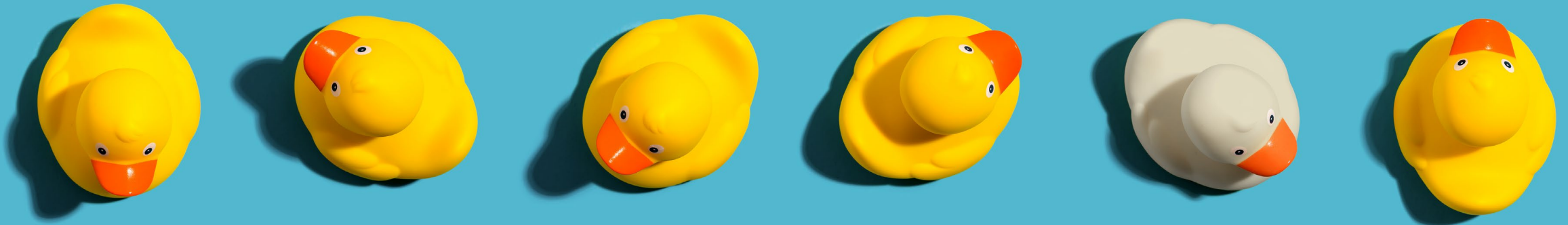
- Community pharmacies
- Primary care offices
- Specialty care practices
- Hospitals
- Behavioral health
- Managed care organizations
- Specialty pharmacies
- Local health departments
- Academic institutions
- Professional organizations
- State and federal agencies



# Differentiators

Pharmacists are...

- **medication experts**
- located in local communities
- accessible
- collaborative
- trusted



Sources: Berenbrok et al, 2022.  
Gallup, 2023.  
Qato et al, 2017.

# Pathways for Collaborative Care

- Immunization authority
  - All 50 states plus District of Columbia and Puerto Rico
- Standing orders
  - e.g., naloxone, epinephrine
- Drug therapy protocols
  - e.g., statins, contraception
- Advanced practice pharmacist designations
  - California, Montana, New Mexico, and North Carolina

# All 50 States and the District Now Allow Collaborative Pharmacy Work

## Collaborative Practice Agreements



Establish a formal relationship



Delegate patient care functions



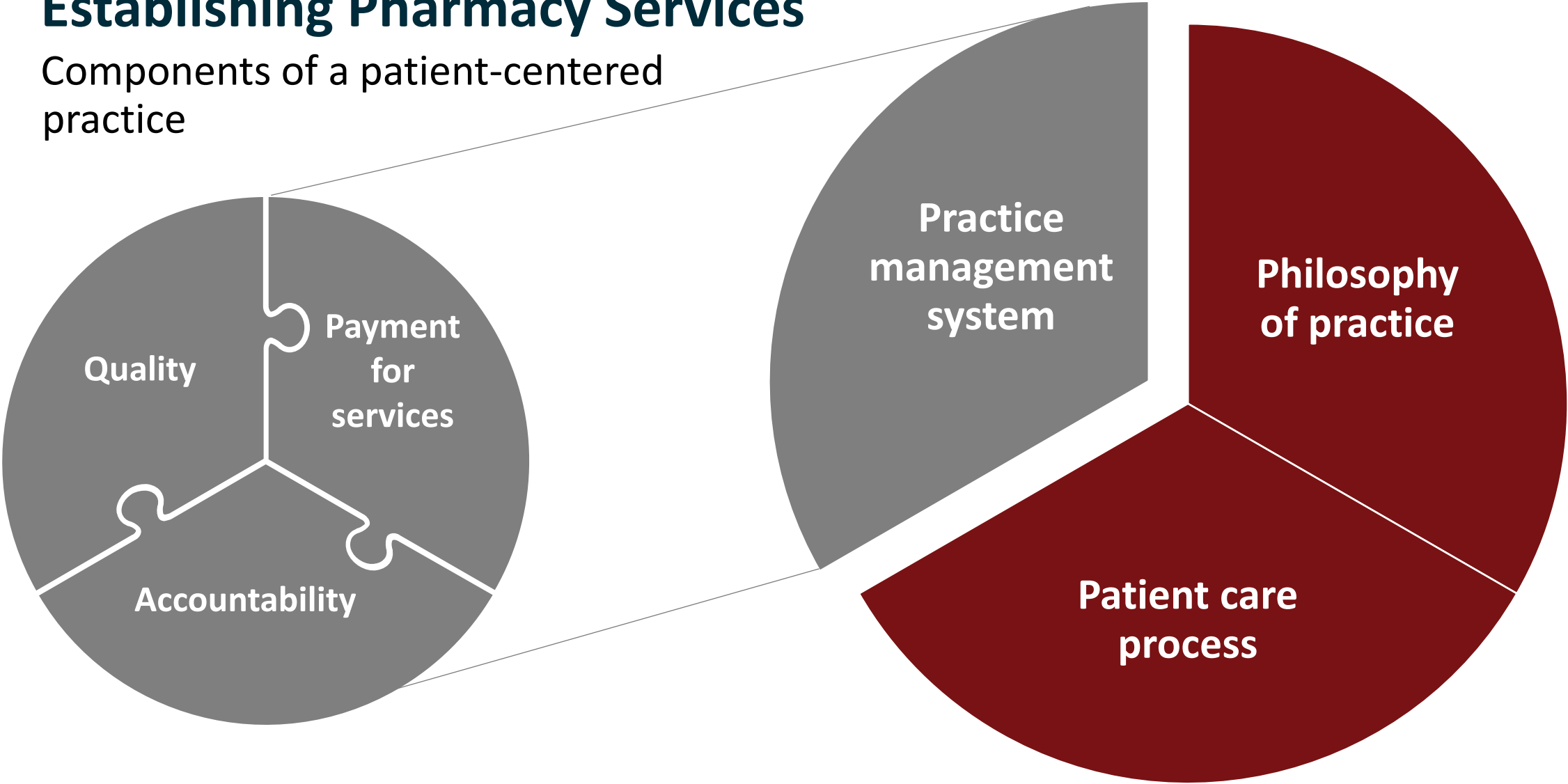
Contain negotiated conditions

# Collaborative Working Relationships



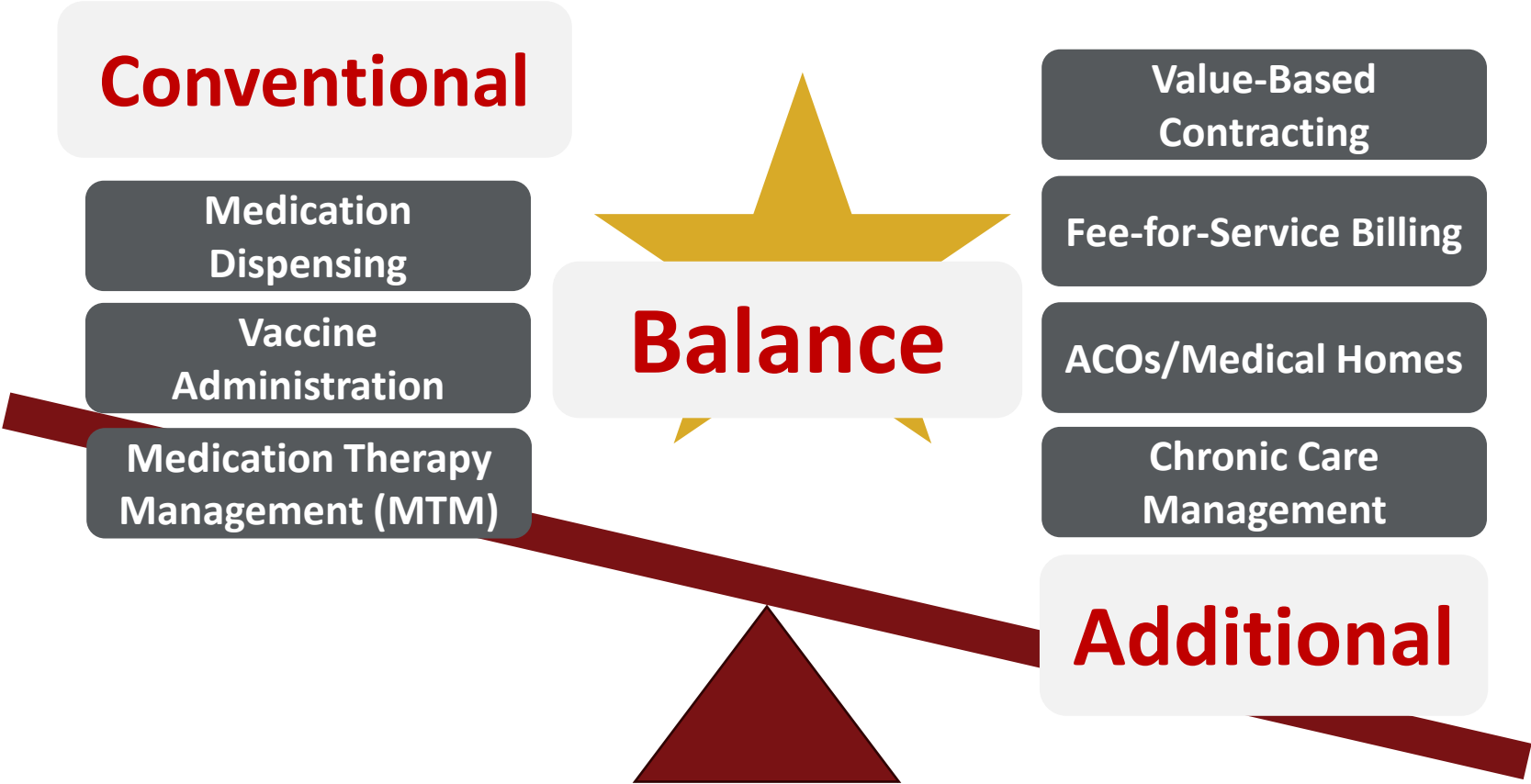
# Establishing Pharmacy Services

Components of a patient-centered practice



# Payment for Services

A history of pharmacists' billing



# Assess the Role of Pharmacies in Addressing Healthcare Disparities and Meeting Unmet Needs in Local Communities

---

Learning Objective 3



# Opportunities to Intervene

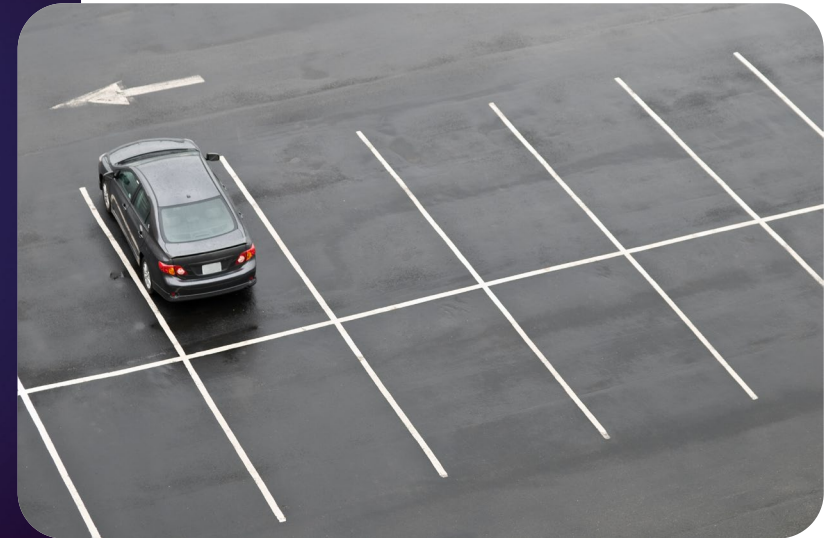
Average pharmacy visits in one year

13

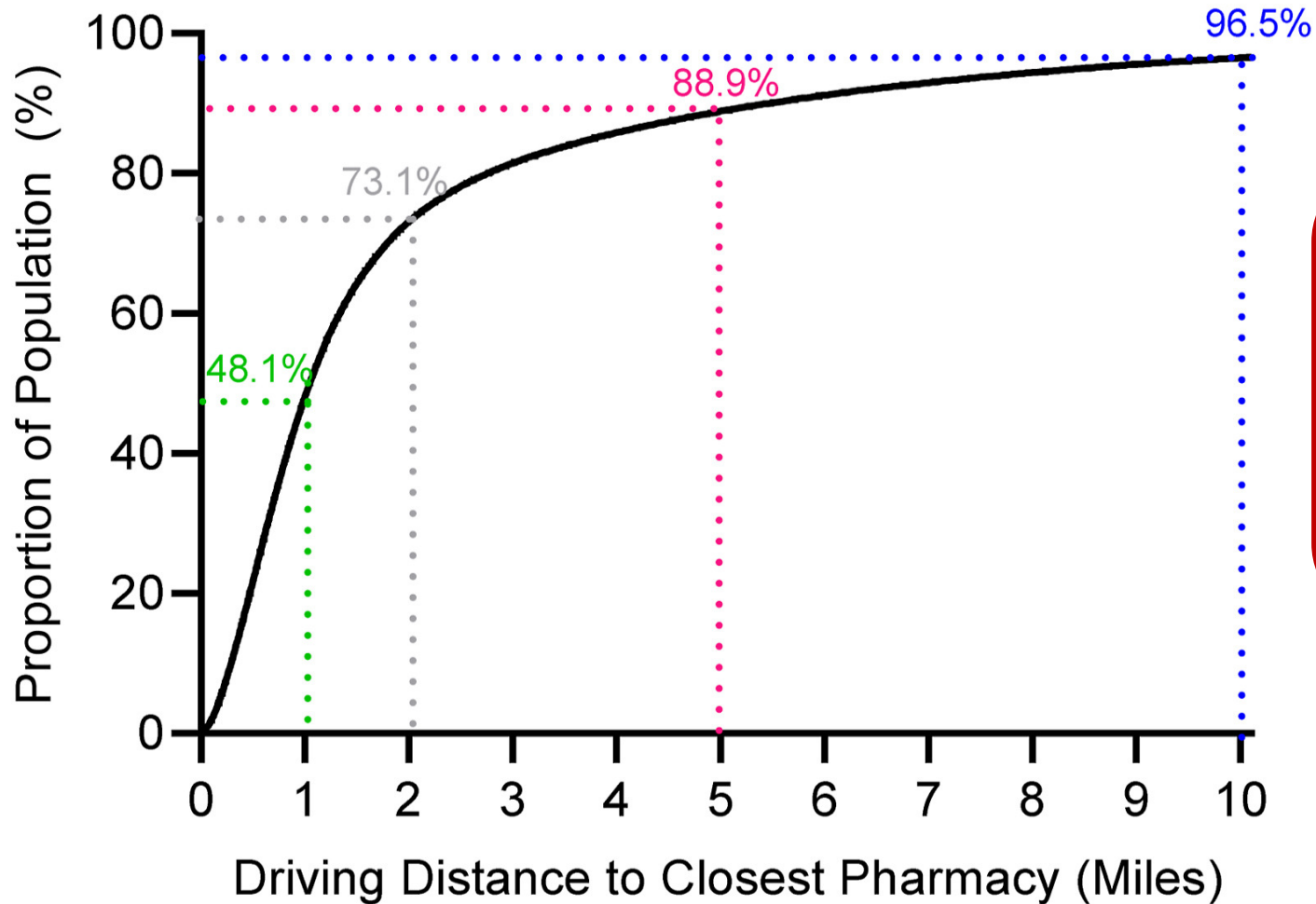
- Medication adherence
- Vaccination
- Chronic disease state management
- Diabetes education
- Screening and brief intervention

Sources: Berenbrok et al, 2020.  
Valliant et al, 2022.

# How Community Pharmacies are Unique



# Population Access to Community Pharmacies



**Approximately 90% of the population lives within 5 miles of a pharmacy**

# Unmet Needs > Population Deserts

Opportunities for community pharmacies to address:

- Low vaccination rates
- Delayed treatment for infectious diseases
- Low utilization of hearing aids
- Gaps in contraception
- Suboptimal statin use in persons with diabetes
- Limited access to medication assisted treatment
- **Fill in what matters most to you! \_\_\_\_\_**

# Pharmacists are Increasing Access to Healthcare by Offering:

- Routine and travel vaccinations to adults and children
- Test and treat services (e.g., strep throat, influenza, and COVID-19 )
- Hearing screenings and OTC hearing aids
- Hormonal contraception (e.g., Rx, OTC, and emergency)
- Chronic disease state management
- OTC naloxone and buprenorphine treatment
- **And many more!**

# Identify Innovative Programs and Pharmacy Services that Address Patient Medication Management Needs and Improve Public Health

---

Learning Objective 4

# Innovative Pharmacy Services

Travel Health

Pharmacogenomics

Sexually Transmitted Disease Testing

Diabetes Education and Prevention

Medication-Assisted Treatment

OTC Hearing Healthcare

# Travel Health

## Preventative advice and travel health topics

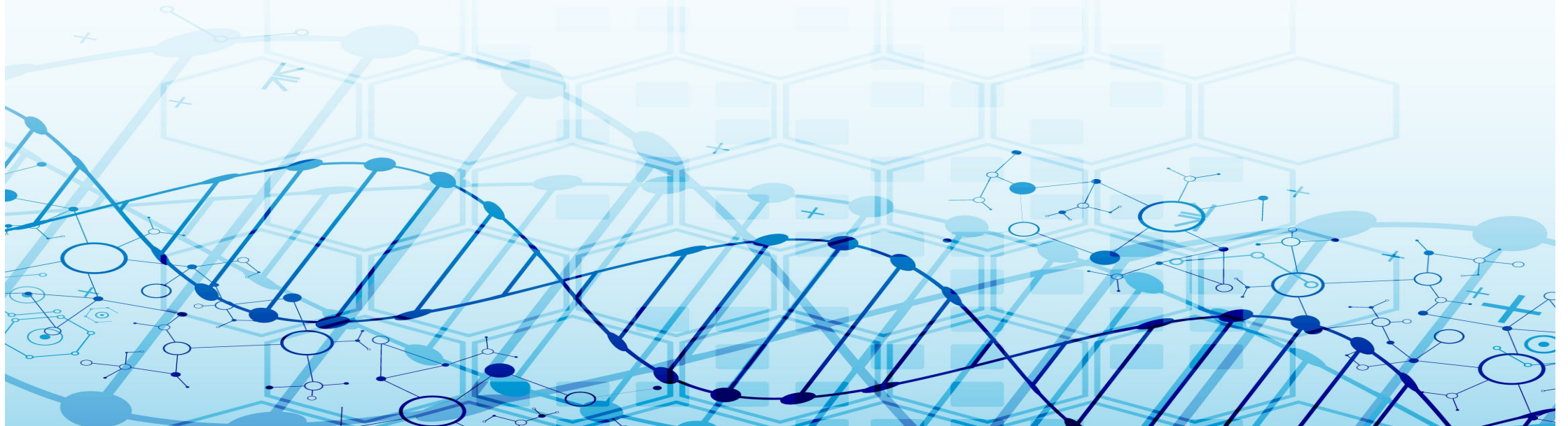
- Vaccine-preventable illness and vaccination
- Travelers' diarrhea prevention and treatment
- Malaria prevention
- Insect avoidance measures
- Environmental sickness (related to altitude, temperature, swimming, driving)
- Motion sickness and jet lag prevention and treatment
- Animal bites and rabies avoidance
- Travel medical kits (components and personalization)



# Pharmacogenomics (PGx)

## Predicting drug response

- PGx-enriched comprehensive medication management program
- Teachers' Retirement System of the State of Kentucky
- Reduction in ~\$7,000 per patient in direct medical costs over 32 months



# Sexually Transmitted Diseases (STDs)

## CDC Success Bulletins – Case Study (Pittsburgh)

### Community members can:

- self-test for chlamydia and gonorrhea
- receive results electronically
- **stop by a local pharmacy for treatment**



# National Diabetes Prevention Program

Centers for Disease Control and Prevention

Approximately 96 million adults, **more than 1 in 3** persons, have prediabetes



# X-Waiver Elimination

## Mainstreaming Addiction Treatment (MAT) Act

### Physician-Delegated Unobserved Induction with Buprenorphine in Rhode Island Pharmacies

- 25 patients (89%) receiving pharmacy-based care continued to attend visits at 1 month after randomization, as compared with 5 patients (17%) receiving usual care
- Retention in pharmacy-based care at 1 month was substantially higher than retention in usual care

# OTC Hearing Healthcare

OTC hearing aids available October 2022



- **~29 million** U.S. adults with hearing loss could benefit from using hearing aids
- **62,000** pharmacies within 5 miles of 90% of the U.S. population
- Only **~14,000** audiologists nationwide

# Recognize the Pharmacist's Impact on Quality Care, Patient Outcomes, and Interprofessional Teamwork

---

Learning Objective 5

# Pharmacists Contribute to Quality

- **Safe medication use**
  - Medication dispensing
  - Formulary review
- **Gaps in care**
  - Guideline directed therapy
  - Vaccines
- **Evidence-based medicine**
  - Literature review and analysis

# Pharmacy Quality Alliance (PQA) Quality Measures

- Adherence
- Appropriate medication use
- Medication safety
- Medication management services
- Opioid measures
- Pharmacy measures



# PQA Measures in 2024 Medicare Part D Star Ratings

- Medication Adherence for Diabetes Medications
- Medication Adherence for Hypertension (RAS antagonists)
- Medication Adherence for Cholesterol (Statins)
- MTM Program Completion Rate for Comprehensive Medication Review (CMR)
- Statin Use in Persons with Diabetes



# Landmark Trials

## The Asheville Project

- Positive clinical results for patients with diabetes, hypertension, hyperlipidemia, and asthma
- Positive economic results 4:1 return on investment

## Diabetes Ten City Challenge

- Positive clinical and economic outcomes
- Significant improvements in A1C, LDL, and blood pressure
- Increased rates of eye examinations, foot examinations, and influenza vaccines

# Supporting Data

## Community pharmacist intervention to optimize statin adherence in diabetes care: The GuIDE-S study

- Pharmacist prescribed a statin via a collaborative practice agreement or facilitated acquisition of a prescription in adult patients with type 2 diabetes.
- Pharmacist intervention resulted in higher statin adherence than usual care; however, the differences were not statistically significant.

# Summary

## Pharmacies & Pharmacists:

- Evolving role in the U.S. healthcare system
- Collaborators increasing patient access to essential services
- Accessible to most Americans, making them important players in public health
- Transforming community pharmacies from stores to healthcare destinations
- Positively impacting the quality of healthcare in the U.S.

# References

- Bacci, J. L., Marcum, Z. A., Rodriguez, P., Hansen, R. N., Bansal, A., Pfund, T., Kim, J. J., & Odegard, P. (2023). *Community pharmacist intervention to optimize statin adherence in diabetes care: The GuIDE-S study*. *Journal of the American Pharmacists Association: JAPhA*, 63(3), 946–951. <https://doi.org/10.1016/j.japh.2023.03.002>
- Berenbrok, L. A., Gabriel, N., Coley, K. C., & Hernandez, I. (2020). *Evaluation of Frequency of Encounters With Primary Care Physicians vs Visits to Community Pharmacies Among Medicare Beneficiaries*. *JAMA network open*, 3(7), e209132. <https://doi.org/10.1001/jamanetworkopen.2020.9132>
- Berenbrok, L. A., & Mormer, E. (2023). *Over-the-counter Hearing Aids*. *JAMA*, 329(14), 1225–1226. <https://doi.org/10.1001/jama.2023.1795>
- Berenbrok, L. A., Tang, S., Gabriel, N., Guo, J., Sharareh, N., Patel, N., Dickson, S., & Hernandez, I. (2022). *Access to community pharmacies: A nationwide geographic information systems cross-sectional analysis*. *Journal of the American Pharmacists Association*, 62(6), 1816–1822.e2. <https://doi.org/10.1016/j.japh.2022.07.003>
- *Billing & Payment Center*. American Pharmacists Association. (n.d.). <https://pharmacist.com/Practice/Practice-Resources/Billing-Payment-Center>
- Centers for Disease Control and Prevention. (2013). *Collaborative Practice Agreements and Pharmacists' Patient Care Services: A Resource for Pharmacists*. Centers for Disease Control and Prevention. [https://www.cdc.gov/dhbsp/pubs/docs/translational\\_tools\\_pharmacists.pdf](https://www.cdc.gov/dhbsp/pubs/docs/translational_tools_pharmacists.pdf)
- Centers for Disease Control and Prevention. (2023, August 1). *National Diabetes Prevention Program*. Centers for Disease Control and Prevention. <https://www.cdc.gov/diabetes/prevention/index.html>
- Centers for Disease Control and Prevention. (2023, June 8). *STI Prevention Success Bulletins*. Division of STD Prevention, National Center for HIV, Viral Hepatitis, STD, and TB Prevention. <https://www.cdc.gov/std/dstdp/sti-funding-at-work/bulletins.htm>
- Cipolle R.J., & Strand L.M., & Morley P.C. (2012). *Chapter 2. pharmaceutical care as the professional practice for patient-centered medication management services*. Cipolle R.J., & Strand L.M., & Morley P.C.(Eds.), *Pharmaceutical Care Practice: The Patient-Centered Approach to Medication Management Services*, 3e. McGraw Hill. <https://accesspharmacy.mhmedical.com/content.aspx?bookid=491&sectionid=39674902>

# References (continued)

- Cranor, C. W., Bunting, B. A., & Christensen, D. B. (2003). *The Asheville Project: long-term clinical and economic outcomes of a community pharmacy diabetes care program*. *Journal of the American Pharmaceutical Association* (Washington, D.C. : 1996), 43(2), 173–184. <https://doi.org/10.1331/108658003321480713>
- Fera, T., Bluml, B. M., & Ellis, W. M. (2009). Diabetes Ten City Challenge: final economic and clinical results. *Journal of the American Pharmacists Association : JAPhA*, 49(3), 383–391. <https://doi.org/10.1331/JAPhA.2009.09015>
- Frost, T. P., & Adams, A. J. (2018). Are advanced practice pharmacist designations really advanced?. *Research in social & administrative pharmacy: RSAP*, 14(5), 501–504. <https://doi.org/10.1016/j.sapharm.2017.10.002>
- Green, T. C., Serafini, R., Clark, S. A., Rich, J. D., & Bratberg, J. (2023). Physician-Delegated Unobserved Induction with Buprenorphine in Pharmacies. *The New England Journal of Medicine*, 388(2), 185–186. <https://doi.org/10.1056/NEJMc2208055>
- Isasi, F., & Krofah, E. (2015, January 13). The Expanding Role of Pharmacists in a Transformed Health Care System. National Governors Association Center for Best Practices.
- Jarvis, J. P., Peter, A. P., Keogh, M., Baldasare, V., Beanland, G. M., Wilkerson, Z. T., Kradel, S., & Shaman, J. A. (2022). Real-World Impact of a Pharmacogenomics-Enriched Comprehensive Medication Management Program. *Journal of Personalized Medicine*, 12(3), 421–. <https://doi.org/10.3390/jpm12030421>
- Kellar, J., Singh, L., Bradley-Ridout, G., Martimianakis, M. A., van der Vleuten, C. P. M., Oude Egbrink, M. G. A., & Austin, Z. (2021). How pharmacists perceive their professional identity: a scoping review and discursive analysis. *The International Journal of Pharmacy Practice*, 29(4), 299–307. <https://doi.org/10.1093/ijpp/riab020>
- Kondic, A. M. S., Trygstad, T., McDonough, R., & Osterhaus, M. (2020). Scaling Community Pharmacy Transformation with the 'Flip the Pharmacy' Implementation Model: Program Origins. *Innovations in pharmacy*, 11(3), 10.24926/iip.v11i3.3399. <https://doi.org/10.24926/iip.v11i3.3399>
- McDonough, R. & Doucette, W. (2001). Developing collaborative working relationships between pharmacists and physicians. *J Am Pharm Assoc* 2001;41:682–92. 10.1016/S1086-5802(16)31315-8.

# References (continued)

- National Alliance of State Pharmacy Associations. (2019, November 1). Collaborative Practice Agreements. Resources. <https://naspa.us/resource/cpa/>
- Payer solutions. CPESN. (n.d.). <https://cpesn.com/solutions-payers>
- Perrotti, J. (2023, April). Medicare part D. PQA Alliance. <https://www.pqaalliance.org/medicare-part-d>
- Qato, D. M., Zenk, S., Wilder, J., Harrington, R., Gaskin, D., & Alexander, G. C. (2017). The availability of pharmacies in the United States: 2007-2015. PloS One, 12(8), e0183172–e0183172. <https://doi.org/10.1371/journal.pone.0183172>
- Shaughnessy, A. (Ed.). (2023). *PWWR Report VI*. <https://www.pharmacist.com/Advocacy/Well-Being-and-Resiliency/pwvr>
- Twenter, P. (2023, August 21). All 50 states now allow collaborative pharmacy work. Becker’s Hospital Review. <https://www.beckershospitalreview.com/legal-regulatory-issues/all-50-states-now-allow-collaborative-pharmacy-work.html>
- Valliant, S. N., Burbage, S. C., Pathak, S., & Urick, B. Y. (2022). Pharmacists as accessible health care providers: quantifying the opportunity. Journal of managed care & specialty pharmacy, 28(1), 85–90. <https://doi.org/10.18553/jmcp.2022.28.1.85>
- Wisconsin Department of Health Services. (2023, March 22). Statewide epinephrine standing order for pharmacists. <https://www.dhs.wisconsin.gov/dph/memos/ems/23-01-ems.htm>

# Knowledge Checks

---



# Community pharmacy practice is rapidly...

- A. Transforming
- B. Transfiguring
- C. Regressing
- D. Evolving

# What is the highest level of collaborative working relationships with pharmacists?

- A. Commitment to the Relationship
- B. Professional Relationship Expansion
- C. Exploration and Trial
- D. Professional Recognition
- E. Professional Awareness

# On average, how many times do patients visit a community pharmacy per year?

- A. 4
- B. 10
- C. 13
- D. 20

# An example of an innovative community pharmacy service includes which of the following?

- A. Influenza vaccination
- B. Pharmacogenomic testing
- C. Prescription dispensing
- D. Patient education

# According to published data from the Asheville Project, pharmacist interventions result in which of the following?

- A. Decreased medication expenditures
- B. Decreased total medical expenditures
- C. Increased rates of adverse drug events
- D. Increased rates of brand drug utilization

# DC | HEALTH

GOVERNMENT OF THE DISTRICT OF COLUMBIA

899 North Capitol Street NE, 5th Fl, Washington, DC 20002

 [dchealth.dc.gov](https://dchealth.dc.gov)

 [@\\_DCHealth](https://twitter.com/_DCHealth)

 [dchealth](https://www.instagram.com/dchealth)

 [DC Health](https://www.facebook.com/DCHealth)

 [dchealth](https://www.tiktok.com/dchealth)

For more information on the District's COVID-19 response, visit [coronavirus.dc.gov](https://coronavirus.dc.gov)