



# Expanding the Role of Pharmacists in the Outpatient Setting

Contributing authors on behalf of Team Best Practices:

Sarah Aldrich Renner, PharmD, BCACP, University of Toledo

Marilee Clemons, PharmD, BCACP, University of Toledo

Cardiovascular disease (CVD) is a leading cause of death in the United States (US) and worldwide.<sup>1,2</sup> From 2018 to 2019, CVD costs, including the cost of health care services, medicines, and lost productivity in the work force, was approximately \$239.9 billion in the US.<sup>1</sup> Cardiovascular disease can be prevented by addressing and managing common risk factors.<sup>1</sup> National guidelines emphasize the need for team-based care approaches to improve chronic disease burden and the incidence of cardiovascular disease.<sup>3-5</sup>



Care teams are comprised of primary care providers (physicians and advanced practice practitioners), nurses, pharmacists, community health workers, dietitians, and other health care professionals who collaborate to educate patients, identify and treat risk factors for disease, address social determinants of health, and maintain continuity of care with patients about their cardiovascular health.<sup>4</sup>

Through collaboration with other health care providers, pharmacists are increasingly involved in patient care to optimize medication utilization. These collaborative models, specifically those in which pharmacists provide in-depth clinical support to primary care providers, have been linked to positive outcomes in chronic conditions, such as dyslipidemia, hypertension, type 2 diabetes (T2D), and tobacco cessation.<sup>6-10</sup> Although opportunities exist for collaboration between primary care practices and community pharmacies and pharmacists, this document will focus on the integration of pharmacists in outpatient clinic settings.<sup>11</sup>

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## Pharmacist Education, Licensure, and Certification

Pharmacists are licensed health care professionals that serve as medication experts within the health care team.

### Education and Certification

#### Required

- **Postgraduate degree**
  - A Doctor of Pharmacy (PharmD) has been required since 2002. Prior to PharmD, a Bachelor of Pharmacy (BSP Pharm) was required. Both degrees currently carry equal credentials and allow a person to practice.
  - PharmD programs require a minimum of 6-8 years of education. All programs include 4 professional years, including experiential training. Programs are required to maintain accreditation through the Accreditation Council for Pharmacy Education (ACPE).
- **Licensure**
  - Passage of the North American Pharmacist Licensure Examination (NAPLEX) is required nationally, and passage of the Multistate Pharmacy Jurisprudence Examination (MPJE) is required for each state.



#### Optional

- **Postgraduate training**
  - Residencies (1-2 years; clinical focus): inpatient, community, ambulatory, or specialty
  - Fellowships (1-2 years; clinical, research, teaching, or industry focus)
- **Board certifications**
  - Certification requirements vary within specialty areas, administered through the Board of Pharmacy Specialties (BPS)
- **Certificate programs**
  - Examples include certified diabetes care and education specialist (CDCES), Board certified-advanced diabetes management (BC-ADM)



## Scope of Practice

A pharmacist's scope is regulated by individual state laws and boards of pharmacy regulations. Pharmacists use a patient-centered approach, collaborate with the health care team, and work to optimize patient and medication outcomes.

### Pharmacists' Patient Care Process<sup>12</sup>

Using principles of evidence-based practice, pharmacists:

#### Collect

The pharmacist collects necessary subjective and objective information about the patient in order to understand the relevant medical/medication history and clinical status of the patient.

#### Assess

The pharmacist assesses the information collected and analyzes the clinical effects of the patient's therapy in the context of the patient's overall health goals in order to identify and prioritize problems and achieve optimal care.

#### Plan

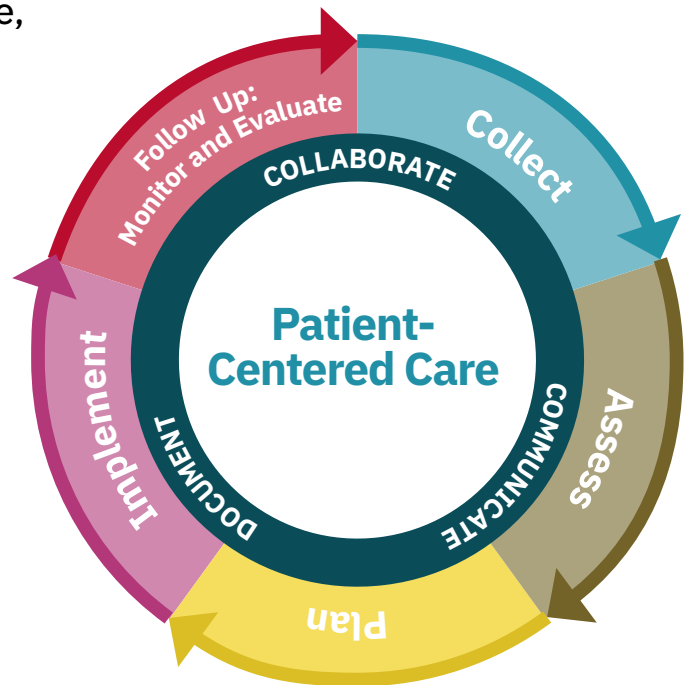
The pharmacist develops an individualized patient-centered care plan, in collaboration with other health care professionals and the patient or caregiver, that is evidence-based and cost-effective.

#### Implement

The pharmacist implements the care plan in collaboration with other health care professionals and the patient or caregiver.

#### Follow Up: Monitor and Evaluate

The pharmacist monitors and evaluates the effectiveness of the care plan and makes modifications to the plan in collaboration with other health care professionals and the patient or caregiver as needed.



Adapted from *Pharmacists' patient care process*

# Integration and Workflow of a Pharmacist in an Outpatient Clinic

## Common Roles of Embedded Pharmacists

Pharmacists in outpatient clinics employ population health and direct patient care strategies as part of their clinical services.

### Population health management

Identify and address gaps in care, promote evidence-based prescribing, and help meet quality metrics.

**Example:** The pharmacist receives monthly population health reports to identify patients with an A1C greater than 9%, then initiates an automatic referral to engage those patients in pharmacist-driven diabetes management to improve clinical outcomes.

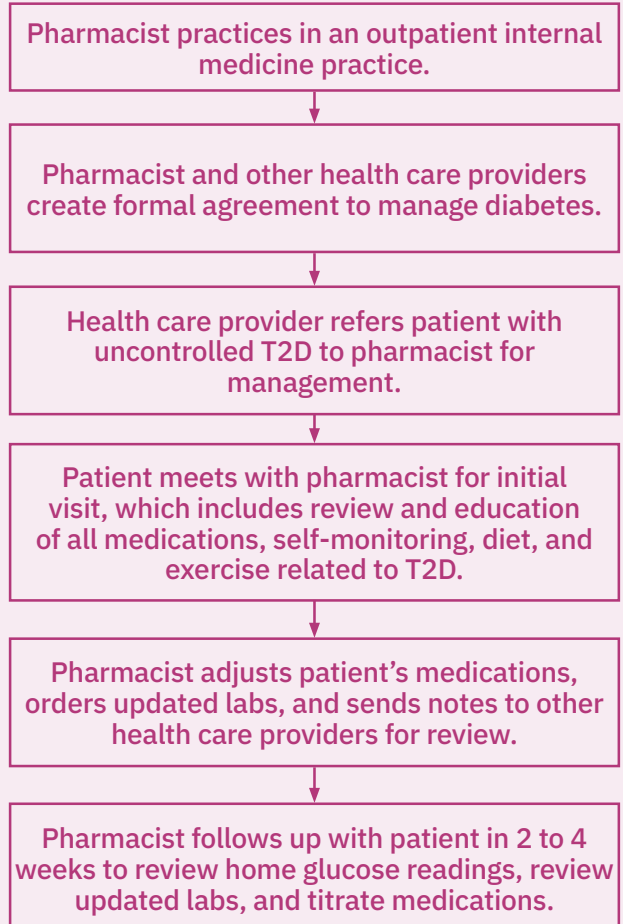


### Direct patient care roles

Focus on improving care transitions, increasing access to care, engaging in chronic disease management, and promoting prevention/wellness activities in collaboration with the patient's health care team.



### Example:



**Table 1. Services in Outpatient Settings<sup>10</sup>**

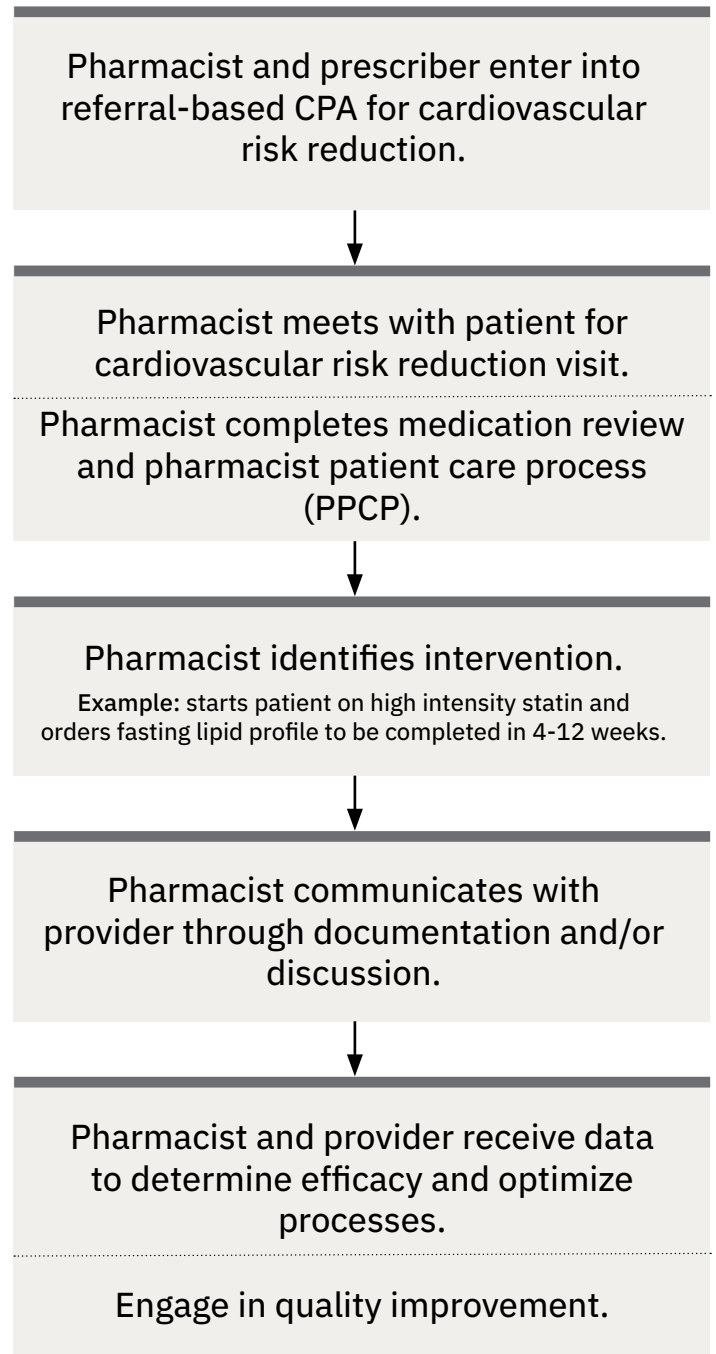
Setting	Primary Role	Additional Training
<b>Community/ Retail Pharmacy</b>	Responsible for dispensing safe and effective medications; patient counseling; immunizations; Medication Therapy Management (MTM*)	No additional training required; pharmacists may complete community or other residency
<b>Outpatient Clinical Services</b>	Medication expert within the health care team; may use collaborative practice agreements Potential clinical areas (not all-inclusive, varies by institution): <ul style="list-style-type: none"> <li>▪ Primary Care</li> <li>▪ Anticoagulation</li> <li>▪ Cardiology</li> <li>▪ Neurology</li> <li>▪ Nephrology</li> <li>▪ Transplant</li> <li>▪ Infectious Disease</li> <li>▪ Hematology/Oncology</li> <li>▪ Psychiatry</li> <li>▪ Pediatrics</li> </ul>	Often requires at least 1 year of residency training; may require second year of specialty training depending on specialty/institution; Board Certification may also be required

\*MTM is a range of services provided by pharmacists to optimize patient outcomes. This could include an in-depth medication review, recommendations made to prescribers, and patient education.<sup>13</sup>

## Collaborative Practice Agreements

Collaborative Practice Agreements (CPAs) are legal agreements that formalize the process in which a licensed practitioner (e.g., physician, physician assistant, clinical nurse specialist, certified nurse-midwife, or certified nurse practitioner) makes a diagnosis, supervises patient care, and refers patients to a pharmacist under a protocol that allows the pharmacist to perform specific patient care management functions.<sup>14</sup> These agreements expand the pharmacist's clinical care to include the following: perform patient assessments; counsel and make referrals; order and interpret laboratory tests; administer medication; and select, initiate, monitor, continue, discontinue, and adjust therapeutic drug regimens. Pharmacists and prescribers can enter into CPAs that facilitate the embedding of pharmacists into clinical practice. CPAs can improve quality of care, reduce care fragmentation, and offer prescriber support in chronic disease management/prevention strategies. In the state of Ohio, a group of providers can enter into a CPA with a group of pharmacists.<sup>15</sup>

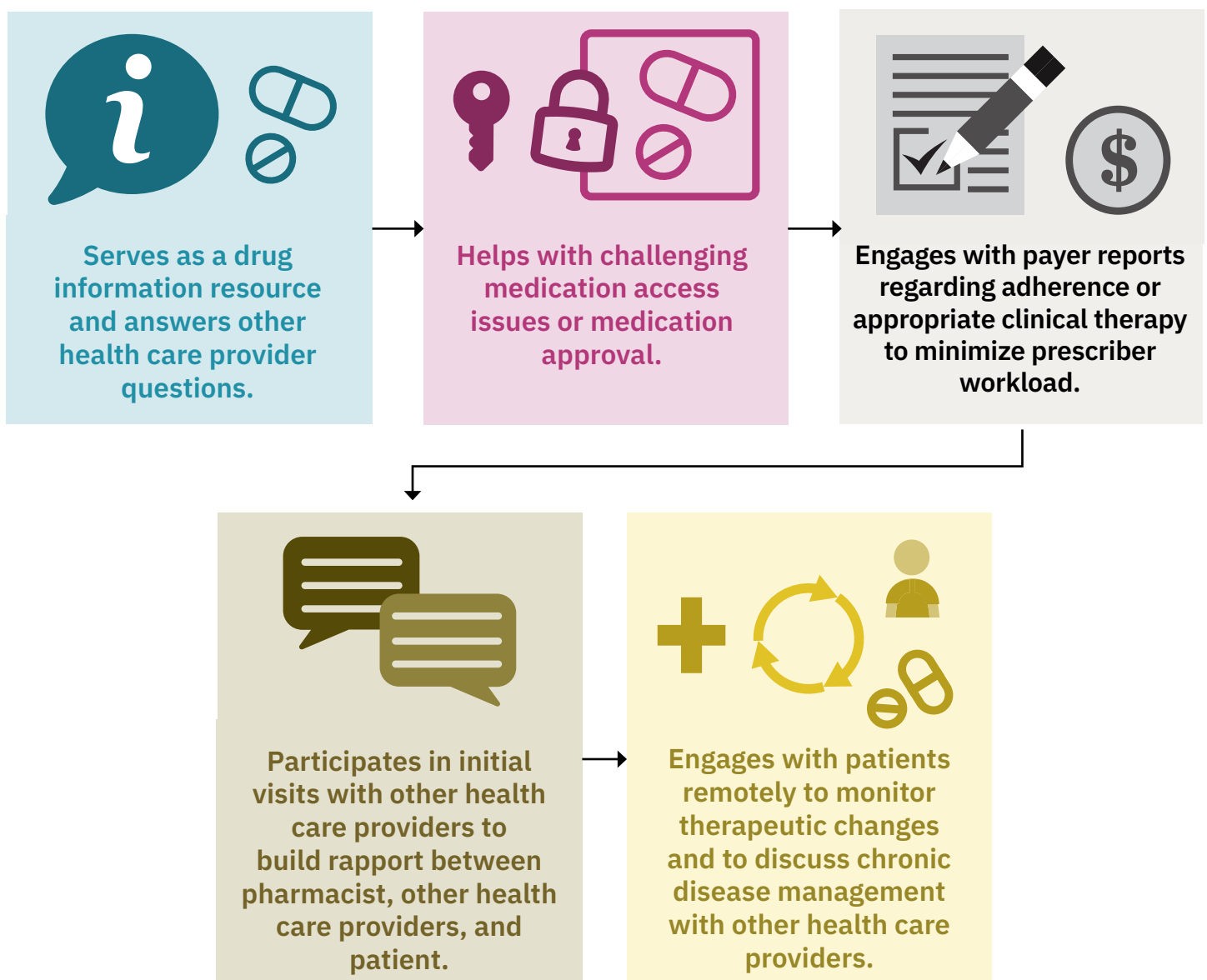
**Figure 1. Sample Clinical Workflow Under CPA for Cardiovascular Risk Factor**



## Care Team Relationships

Building effective relationships with the health care team members is vital to an embedded pharmacist's success. Initially, it is important to ensure interests are aligned among the pharmacist, the other health care providers, the patient, and the institution. Trust is established through the demonstration of competence and open communication; opportunities for collaboration may change as trust grows. Strategically adding pharmacy services will allow practices to improve outcomes and control costs of care.<sup>14</sup>

**Figure 2. Evolving Pharmacist Roles Based on Relationships**



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## Towards Sustainability: Financial Models and Reimbursement

Traditionally, pharmacist reimbursement has focused on payments for products, such as prescription medications. As their scope expands and integration into clinical care continues, clinical practices must develop payment strategies to financially support pharmacists working in these settings.

Currently, pharmacists are not recognized as providers under Medicare Part B and, therefore, cannot directly bill for many of the clinical services they provide. However, through credentialing with state insurers, private insurers, and health systems, pharmacists can implement sustainable services into their clinical practice. Under Medicare, pharmacists can use remote physiologic monitoring codes to collect reimbursement for parameters such as weight, blood pressure, or blood glucose readings.

Pharmacists have been recognized as Medicaid providers in Ohio since 2019; however, Ohio Medicaid did not have billing opportunities for services provided in a clinical space until 2021. To receive payment, pharmacists are required to enroll as Medicaid providers. Once credentialed as a Medicaid provider, pharmacists work with their institutions to contract individually with Medicaid plans, similar to other providers. Pharmacists that work in hospital-based clinics that bill facility fees cannot bill Medicaid. Pharmacists may bill Medicaid for services on a “**modified physician fee schedule**.” However, the ability to bill may be impacted by other provider visits on the same day.

As health care shifts to a value-based model, health care systems can invest in the incorporation of team-based care models, including pharmacists, to create and implement processes aimed at meeting value-based quality measures. By using value-based strategies, pharmacists can directly increase reimbursement to clinics by meeting quality measures and reducing costs for events such as hospitalizations and emergency room visits.<sup>16</sup>





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## Additional Resources

- **Collaborative Practice Agreements and Pharmacists' Patient Care Services:**

Overview of pharmacist collaborative practice agreements and patient care services, provided by the Centers for Disease Control and Prevention.

[cdc.gov/dhds/pubs/docs/Translational\\_Tools\\_Pharmacists.pdf](https://www.cdc.gov/dhds/pubs/docs/Translational_Tools_Pharmacists.pdf)

- **Improve Patient Care and Team Engagement Through Collaboration and Streamlined Processes:**

Toolkit to aid improvements to team-based care.

[edhub.ama-assn.org/steps-forward/module/2702513](https://edhub.ama-assn.org/steps-forward/module/2702513)

- **Partnering with Pharmacists to Reduce Cardiovascular Risk in Outpatient Settings:**

Resource on how to develop team based care models and engage pharmacists, in the Journal of the American Heart Association.

[ahajournals.org/doi/10.1161/JAHA.119.014705](https://ahajournals.org/doi/10.1161/JAHA.119.014705)

- **Promoting Team-Based Care to Improve High Blood Pressure Control:**

A guide on implementing a team-based approach to blood pressure control, provided by the Centers for Disease Control and Prevention.

[cdc.gov/dhds/pubs/team-based-care.htm](https://www.cdc.gov/dhds/pubs/team-based-care.htm)

- **Systematic Review and Meta-Analysis of Medication Reviews Conducted by Pharmacists on Cardiovascular Disease Risk Factors in Ambulatory Care:**

An analysis of the impact of pharmacist-led medication reviews on cardiovascular risk factors, in the Journal of the American Heart Association.

[ahajournals.org/doi/10.1161/JAHA.119.013627](https://ahajournals.org/doi/10.1161/JAHA.119.013627)

### Access Cardi-OH's Expanded Resources

- **Building Your Person-Centered Diabetes Care Team**

[cardi-oh.org/best-practices/diabetes-management/building-your-person-centered-diabetes-care-team](https://www.cardi-oh.org/best-practices/diabetes-management/building-your-person-centered-diabetes-care-team)

- **Medication Adherence: A Driver of Patient Outcomes**

[cardi-oh.org/podcasts/5-medication-adherence-a-driver-of-patient-outcomes](https://www.cardi-oh.org/podcasts/5-medication-adherence-a-driver-of-patient-outcomes)

- **Medication Adherence: The Key to Positive Patient Outcomes**

[cardi-oh.org/best-practices/patient-adherence/medication-adherence-the-key-to-positive-patient-outcomes](https://www.cardi-oh.org/best-practices/patient-adherence/medication-adherence-the-key-to-positive-patient-outcomes)

## References

1. Centers for Disease Control and Prevention, U.S. Department of Health & Human Services. Heart Disease Facts. <https://www.cdc.gov/heartdisease/facts.htm>. Reviewed October 14, 2022. Accessed April 5, 2023.
2. World Health Organization. Cardiovascular diseases (CVDs). [https://www.who.int/news-room/fact-sheets/detail/cardiovascular-diseases-\(cvds\)](https://www.who.int/news-room/fact-sheets/detail/cardiovascular-diseases-(cvds)). Published June 11, 2021. Accessed April 5, 2023.
3. U.S. Department of Health and Human Services, U.S. Public Health Service, Office of the Surgeon General. The Surgeon General's Call to Action to Control Hypertension. <https://www.hhs.gov/sites/default/files/call-to-action-to-control-hypertension.pdf>. Published October 2020. Accessed April 5, 2023.
4. Centers for Disease Control and Prevention, U.S. Department of Health & Human Services. Promoting Team-Based Care to Improve High Blood Pressure Control. <https://www.cdc.gov/dhds/pubs/team-based-care.htm>. Reviewed November 10, 2022. Accessed April 5, 2023.
5. American Diabetes Association Professional Practice Committee. 1. Improving care and promoting health in populations: Standards of Medical Care in Diabetes—2022. *Diabetes Care*. 2022;45(Suppl.1):S8–S16. doi: 10.2337/dc22-S001.
6. Santschi V, Chiolero A, Colosimo AL, et al. Improving blood pressure control through pharmacist interventions: a meta-analysis of randomized controlled trials. *J Am Heart Assoc*. 2014;3(2):e000718. doi: 10.1161/JAHA.113.000718.
7. Bluml BM, McKenney JM, Cziraky MJ. Pharmaceutical care services and results in project ImPACT: hyperlipidemia. *J Am Pharm Assoc (Wash)*. 2000;40:157-65. doi: 10.1016/s1086-5802(16)31059-2.
8. Fazel MT, Bagalagel A, Lee JK, et al. Impact of diabetes care by pharmacists as part of the health care team in ambulatory settings: a systematic review and meta-analysis. *Ann Pharmacother*. 2017;51(10):890-907. doi: 10.1177/1060028017711454.
9. Santschi V, Chiolero A, Burnand B, et al. Impact of pharmacist care in the management of cardiovascular disease risk factors: a systemic review and meta-analysis of randomized trials. *Arch Intern Med*. 2011;171(16):1441-1453. doi:10.1001/archinternmed.2011.399.
10. Kliethermes MA, Brown TR. *Building a Successful Ambulatory Care Practice: A Complete Guide for Pharmacists*. 1st ed. Bethesda, MD: American Society of Health-System Pharmacists; 2012.
11. Vordenberg, SE, Lindell, V, Sheerer, K, et al. Improving hypertension control through a collaboration between an academic medical center and a chain community pharmacy. *J Am Coll Clin Pharm*. 2019; 2(4): 357– 365. doi:10.1002/jac5.1158.
12. Joint Commission of Pharmacy Practitioners. Pharmacists' Patient Care Process. <https://jcphp.net/wp-content/uploads/2016/03/PatientCareProcess-with-supporting-organizations.pdf>. Published May 29, 2014. Accessed April 5, 2023.
13. Blum BM. Definition of medication therapy management: development of professionwide consensus. *J Am Pharm Assoc (2003)*. 2005;45(5):566-572. doi: 10.1331/1544345055001274.
14. Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Division for Heart Disease and Stroke Prevention, U.S. Department of Health & Human Services. Collaborative Practice Agreements and Pharmacists' Patient Care Services: A Resource for Pharmacists. [https://www.cdc.gov/dhds/pubs/docs/Translational\\_Tools\\_Pharmacists.Pdf](https://www.cdc.gov/dhds/pubs/docs/Translational_Tools_Pharmacists.Pdf). Published October 2013. Accessed April 5, 2023.
15. Legislative Service Commission. Ohio Revised Code (ORC) 4729.39: Consult agreement with physicians. <http://codes.ohio.gov/orc/4729.39>. Effective December 16, 2020. Accessed April 5, 2023.
16. American Pharmacists Association. Successful Integration of Pharmacists in Accountable Care Organizations and Medical Home Models: Case Studies. [https://www.pharmacist.com/Portals/0/PDFS/Practice/APhA\\_Medical\\_Home\\_ACO\\_Report\\_Final.pdf?ver=0vbHcscSN\\_2-3x3UmFLZ5Q%3d%3d](https://www.pharmacist.com/Portals/0/PDFS/Practice/APhA_Medical_Home_ACO_Report_Final.pdf?ver=0vbHcscSN_2-3x3UmFLZ5Q%3d%3d). Published March 2020. Accessed April 5, 2023.

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## Partners



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The Ohio Cardiovascular & Diabetes Health Collaborative is funded by the Ohio Department of Medicaid and administered by the Ohio Colleges of Medicine Government Resource Center. The views expressed in this document are solely those of the authors and do not represent the views of the state of Ohio or federal Medicaid programs.