

Geisinger Ambulatory Pharmacy Care Program

Problem

The Medical and Financial Cost of Poor Heart Disease Management

About 6 in 10 adults in the United States have at least one chronic disease, and 4 in 10 adults have two or more chronic diseases.¹ High blood pressure (hypertension) is a major risk factor for heart disease and stroke, which are leading causes of death in the United States.¹ Only 24% of people with high blood pressure have their condition under control.² Uncontrolled high blood pressure can lead to an increase in hospitalizations due to strokes and heart disease. Strong evidence shows that a team-based care model that includes pharmacists and nurses coordinating care can improve blood pressure control and ultimately reduce the risk of stroke and heart disease.³

Care coordination refers to organizing activities and sharing information among all health care team members, including physicians, pharmacists, and nurses. Care coordination has led to better outcomes for patients with chronic diseases, but the extent to which pharmacists are involved in patient care varies.

Project

Pharmacists Intervene to Optimize Medication Therapy

The MTDM program covers 25 conditions and disease states. Pharmacists play a crucial role in disease management and high-quality patient-centered care.

For more information, please contact:

Centers for Disease Control and Prevention

1600 Clifton Road NE
Atlanta, GA 30333

Telephone: 1-800-CDC-INFO
(232-4636)/TTY: 1-888-232-6348

E-mail: cdcinfo@cdc.gov

Web: www.cdc.gov




Overview

The Geisinger ambulatory pharmacy care program, also known as the Medication Therapy Disease Management (MTDM) program, was founded in 1996. In 2020, the program included 59 primary care clinical pharmacists, 20 specialty care clinical pharmacists, 34 pharmacy technicians, and 15 support staff. The pharmacists and other health care team members coordinate care for patients in Pennsylvania and southern New Jersey living with chronic diseases, including diabetes, cardiovascular disease, chronic obstructive pulmonary disease (COPD), and hepatitis C.

Through a collaborative practice agreement, primary care and specialty pharmacists are integrated into physician offices, Federally Qualified Health Centers, and the Keystone Medicare Accountable Care Organization to provide comprehensive medication reviews for patients with chronic diseases. Pharmacists also play an important part in caring for patients 65 or older at two primary care centers.

Comprehensive medication reviews include identifying, modifying, and resolving medication-related problems. MTDM pharmacists also monitor and adjust medication care plans, order lab tests and imaging, and educate patients about chronic diseases.

Key Characteristics of the Geisinger Ambulatory Pharmacy Care Program

-  Program includes 59 primary care clinical pharmacists
-  Coordinates care for patients in Pennsylvania and New Jersey
-  MTDM program covers 25 conditions and disease states

Intended Participants

The intended participants of the MTDM program are patients of Geisinger Health System who have qualifying conditions. Patients may be referred to the MTDM program by Geisinger doctors and inpatient pharmacists. Patients are automatically enrolled in the program if they meet certain criteria, such as having recent hospital visits or high-risk medication combinations. In 2020, program pharmacists completed 348,739 patient encounters: 113,397 office visits, 1,857 telehealth visits, and 233,485 phone visits.

Core Component	Description
Primary Care	<p>Primary care pharmacists care for 400 to 600 patients each during comprehensive office-based and telehealth visits. Each primary care pharmacist meets with 12 to 16 patients a day, with visits lasting about 10 to 15 minutes for anticoagulation management, 30 to 45 minutes for chronic disease management, and 60 to 120 minutes for counseling on new insulin pumps. During the visits, pharmacists review the patient's reason for referral, current medication-related problems, hospitalization history, medication and vaccination history, and medical allergies. Then they modify the medication regimen as needed.</p>
Specialty Medicine	<p>Each specialty medicine pharmacist cares for 350 to 500 patients in areas such as gastroenterology, rheumatology, or neurology. Patients are mainly seen via telehealth appointments. Specialty medicine pharmacists monitor data analytics to identify gaps in care, vaccination, and 340B optimization.* They also check if patients are overdue for appointments or lab work, and if they are adhering to guideline-directed therapies.</p> <p>Specialty pharmacists also serve as the main link between the specialty doctors and Geisinger's home infusion pharmacy, the prior authorization and financial assistance team, and the specialty pharmacy.</p>
Home-Based Primary Care	<p>Geisinger at Home is a home-based primary care model that was developed to increase access to care and reduce high-cost use for patients who have complex, hard-to-manage conditions such as heart disease, kidney disease, cancer, and dementia.</p> <p>Two clinical pharmacists provide telehealth services, working with registered nurse case managers, advanced practitioners, community medical assistants, and regional medical directors. The home-based care pharmacist helps patients manage their medications and conditions, helps them get medications, and works closely with other team members to make sure the medications are working as intended.</p>

*The 340B Drug Pricing Program provides financial help to health care organizations that care for patients with no insurance and low incomes to manage rising prescription drug costs.

Between 2001 and 2016, enrollment in Geisinger's MTDM program was associated with 18% fewer ED visits and 18% fewer hospitalizations among patients whose atrial fibrillation (AFib) was being managed than among patients with AFib who did not receive MTDM services.

Goals and Expected Outcomes

The main goals of the MTDM program are to optimize medication therapy, improve chronic disease management, and improve population health by referring patients with uncontrolled chronic diseases to the pharmacy team. Expected outcomes for participating in the program include significant improvements in patients' disease states, fewer emergency department (ED) visits and hospitalizations, and reduced medical costs.

Many of these goals were realized. Between 2001 and 2016, enrollment in Geisinger's MTDM program was associated with 18% fewer ED visits and 18% fewer hospitalizations among patients whose atrial fibrillation (AFib) was being managed than among patients with AFib who did not receive MTDM services. Reductions in hospitalizations and ED visits for patients with AFib were found to save the health system about \$7,200 per patient.⁴

Progress Toward Implementation

The MTDM program has evolved from solely providing anticoagulation management services to supporting and caring for patients with any of 25 conditions. The program was expanded so that pharmacists could assess patients' medications, medication-related problems, and treatment for acute exacerbations and ensure that medications were being used as recommended by relevant guidelines. Currently, patients receiving anticoagulation therapy or treatment for diabetes are managed by clinical pharmacists indefinitely, whereas patients with high blood pressure, heart failure, COPD, or high cholesterol are more likely to need only short-term management (e.g., 3–6 months).

Only 45% of patients treated by Geisinger's clinical pharmacists in the MTDM program are covered by the Geisinger Health Plan. Additional public and private payor reimbursement is necessary to cover the costs of the MTDM program for patients who are not currently covered. Geisinger's investment in data and analytics, documented improvements in patient outcomes, and support of the health system's physicians have convinced leadership to continue to invest in the MTDM program.

Enabling Pharmacy Care

Geisinger's MTDM program has implemented several strategies to support and improve the work of pharmacists in patient care. The program uses a comprehensive "data warehouse" to collect and track data from electronic health records, tumor registries, and insurance claims, as well as patient-reported data. Data access has allowed the program to track improvements in medication and lab testing adherence, appropriate medication use, ED visits, hospital admissions, access to doctors, and treatment success.

MTDM pharmacists also help collect clinical metrics, such as HbA1c control for diabetes, use of statins when indicated, and being up to date on recommended vaccinations. In addition, pharmacists routinely report metrics to health system leadership, health plan leadership, and clinical teams.

Suggested Citation

Centers for Disease Control and Prevention. *Geisinger Ambulatory Pharmacy Care Program Field Notes*. Centers for Disease Control and Prevention; 2023. doi: [10.15620/cdc:126232](https://doi.org/10.15620/cdc:126232)

This document does not constitute an endorsement of any organization or program by CDC or the federal government, and none should be inferred.

¹ Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion. [Chronic Diseases in America](#) [PDF – 3 MB]. National Center for Chronic Disease Prevention and Health Promotion; 2022.

² Centers for Disease Control and Prevention. [Hypertension Cascade: Hypertension Prevalence, Treatment and Control Estimates Among U.S. Adults Aged 18 Years and Older Applying the Criteria from the American College of Cardiology and American Heart Association's 2017 Hypertension Guideline—NHANES 2015–2018](#). Atlanta, GA: US Dept of Health and Human Services; 2021.

³ Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Division for Heart Disease and Stroke Prevention. [Best Practices for Heart Disease and Stroke: A Guide to Effective Approaches and Strategies](#) [PDF – 23.26MB]. Centers for Disease Control and Prevention; 2022.

⁴ Jones LK, Greskovic G, Grassi DM, Graham J, Sun H, Gionfriddo MR, et al. [Medication therapy disease management: Geisinger's approach to population health management](#). *Am J Health Syst Pharm*. 2017;74(18):1422–35.