

## Using Pharmacy Technicians and Electronic Health Record Capabilities to Improve Outcomes for Patients with Cardiovascular Disease

The following is a synopsis of “Using Pharmacy Technicians and Electronic Health Record Capabilities to Improve Outcomes for Patients with Cardiovascular Disease” published in the *Journal of the American Pharmacists Association* on October 20th, 2021.



### What is already known on this topic?

Cardiovascular diseases (CVDs) are the number one cause for morbidity and mortality across the globe, and in the United States, it is estimated that one person dies of CVD every 34 seconds.<sup>1,2</sup> It is important to manage CVD with medications and lifestyle interventions to prevent future complications, such as stroke or heart attack.<sup>3</sup> Given the high demand for CVD care and medication regimen complexity, pharmacist-led ambulatory care clinics have been utilized to expand access to care, close gaps in treatment and improve patient outcomes. These clinics have proven to be successful, particularly in improving patient outcomes and reducing cost of care.<sup>4</sup> However, often there is a high workload in these clinics, and pharmacists may be required to spend time on administrative responsibilities, reducing the time dedicated to clinical care. This reduces efficiency and may limit the number of patients that can be reached

with pharmacist-led services.<sup>3</sup> To remedy this issue, there have been several efforts to further integrate certified pharmacy technicians (CPhTs) into pharmacist's workflow to allow pharmacists to engage in more clinical activities. Examples include technician product verification, CPhT-led medication histories and reconciliations, as well as studies that incorporate CPhTs into ambulatory care clinics specializing in anticoagulation and pain management. There are studies that qualitatively investigate how CPhTs can be further engaged in pharmacy workflow, however, there is little quantitative data in this area.

### What is added by this article?

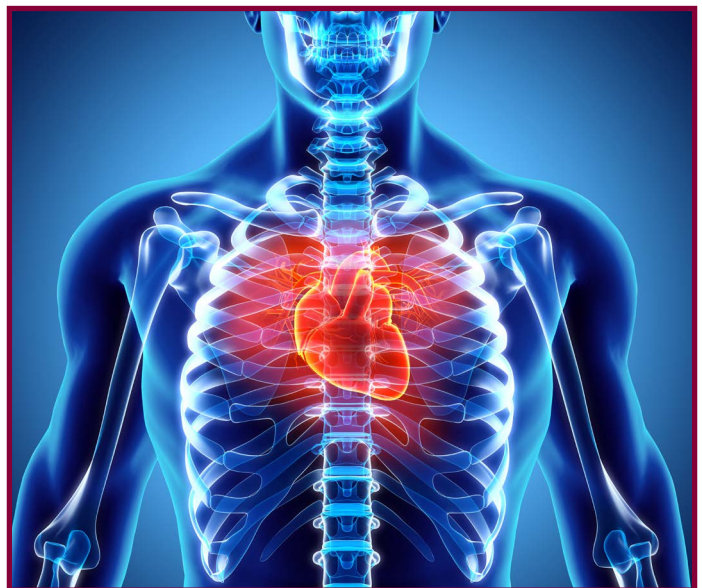
This study provides quantitative data regarding how expanded CPhT involvement and electronic health record (EHR) optimization impacts patient care and pharmacist workflow in an ambulatory care setting focused on cardiovascular disease. The study was Kaiser Permanente Colorado's clinical pharmacy cardiac risk reduction service (CPCRS). Patient outcomes were gathered at the time of, and one year, after the implementation of the program, comprised of a “Pharmacist Driven” and a “Tech Advanced” group. Outcomes gathered included the proportion of patients meeting LDL-c, non-HDL, and blood pressure goals in each group. Results were then compared to assess the impact of CPhT involvement on both patient outcomes, and pharmacist workload.

Clinical pharmacy specialists within this service practice under collaborative practice agreements (CPAs) that allow pharmacists to engage in chronic drug therapy management (CDTM), initiate and modify patients drug therapy plans, order, and interpret laboratory orders and follow up with patients as necessary. Patients managed by the clinic included those with a diagnosis of coronary artery disease (CAD), defined as a history of acute coronary syndromes, acute myocardial infarction, percutaneous coronary intervention with or without stents, and coronary artery bypass graft surgery.

In this study, clinic patients received periodic monitoring of cholesterol and blood pressure. Results were routed into the clinics EHR inbox, which was monitored by CPhTs. The CPhT in this clinical focused role has a defined scope and is extensively trained on clinic protocols. Patients were triaged by the CPhT, who determined if the patient was meeting cardiovascular disease state goals defined by the study protocol (included cholesterol levels, statin therapy and intensity, and blood pressure). If the patient was determined to meet disease state goals, they would be contacted by the CPhT to schedule an annual follow-up cholesterol test, along with offering refills of medication as necessary. If the patient was not meeting disease state goals, they would be routed to the pharmacist for further intervention and would receive more frequent follow up. The EHR was used to prevent mistakes by flagging patients who were not meeting disease state goals, to allow for easier identification by the CPhT and subsequent routing to the pharmacist. Patients who received this intervention by the CPhT were considered a part of the “Tech Advanced” group, and patients who were routed to the pharmacist because they were not meeting

disease state goals, were considered a part of the “Pharmacist Driven” group.

Study results show that a higher proportion of patients in the “Tech Advanced” group met disease state goals of an LDL-c <70 mg/dL and non-HDL <100 mg/dL. However, there was no difference between “Tech Advanced” and “Pharmacist Driven” groups for blood pressure attainment of <140/90 mmHg. Results also show that pharmacist workload decreased. Based on study findings, the authors concluded that CPhT involvement can improve disease state control, and offload work for pharmacists.



### **What are the implications of these findings?**

The expansion of the CPhT role supported by an integrated electronic health record can be beneficial for patient outcomes in a cardiac risk reduction service. Engaging CPhTs in this role decreases pharmacist workload and allows pharmacists to spend more time on complex clinical cases.



To continue advancing the practice of pharmacy and expanding the reach of pharmacist led cardiovascular risk reduction services, technicians can be utilized to a greater degree and integrated into aspects of pharmacist workflow. Findings from this study support national professional pharmacy organizations such as the American Pharmacists Association (APhA) that promote this practice advancement. In addition, public health practitioners can consider the information presented in this study when developing pharmacy-based programs that incorporate CPhTs.

## Resources

### Pharmacy Resources

[Pharmacy Resources | cdc.gov](#)

### A Program Guide for Public Health

[A Program Guide for Public Health: Partnership with Pharmacists in the Prevention and Control of Chronic Diseases \(cdc.gov\)](#)

### American Pharmacists Association

[American Pharmacists Association > Home > Technicians](#)

## References

1. Ahmad FB, Anderson RN. The Leading Causes of Death in the US for 2020. *Jama*. May 11 2021;325(18):1829-1830. doi:10.1001/jama.2021.5469
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## Citation

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