



ICD-Pieces: Improving Chronic Disease Management With Pieces™

Principal Investigator

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Sponsoring Institution

University of Texas Southwestern
Medical Center

Collaborators

- Parkland health and Hospital System
- Texas Health Resources
- ProHealth
- VA North Texas

NIH Institute Providing Oversight

[National Institute of Diabetes and Digestive and Kidney Disease \(NIDDK\)](#)

ClinicalTrials.gov Identifier

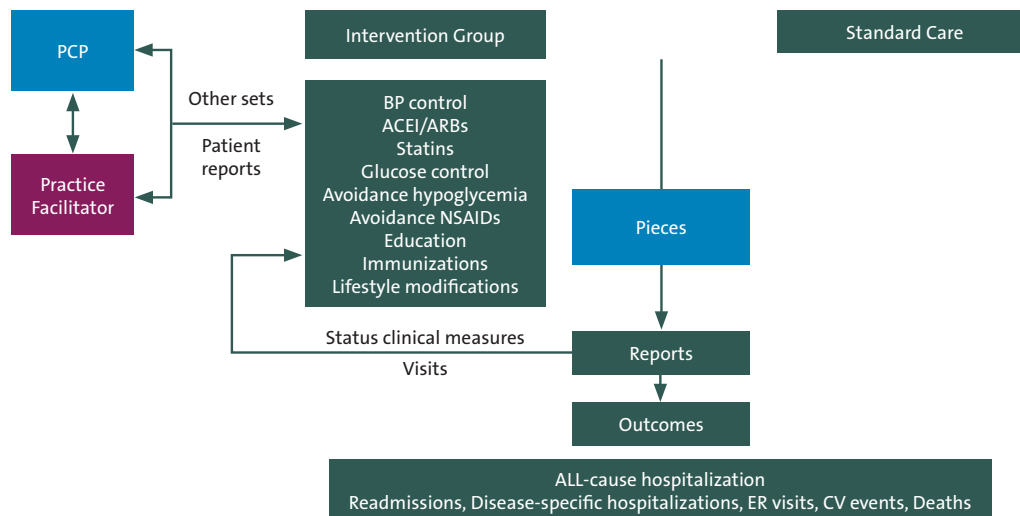
[NCT02587936](#)

ABSTRACT

Chronic kidney disease (CKD), diabetes, and hypertension are common medical conditions that are often present together and cause many complications. Among adults in the United States, the prevalence of CKD has increased from 10% to 14% over the last 2 decades, and diabetes and hypertension are the 2 leading causes of CKD and end-stage renal disease. Important progress in identification of effective treatments for CKD, diabetes, and hypertension has been made, but there is a significant gap in translating these treatments to clinical practice.

The goal of ICD-Pieces is to help primary care physicians treat patients with coexisting CKD, diabetes, and hypertension in more effective ways. The main hypothesis is that patients receiving care using a collaborative model of primary care-subspecialty care, enhanced by novel information technology and practice facilitators, will have fewer hospitalizations, readmissions, cardiovascular events, and deaths than patients receiving standard medical care. This study is implementing a novel technology platform (Pieces) supported by practice facilitators across 4 participating large healthcare systems to improve care within primary care practices.

ICD-Pieces Patient Care Workflow



WHAT WE'VE LEARNED SO FAR

Current Barriers	Solution				
	1	2	3	4	5
Enrollment and engagement of patients/subjects			X		
Engagement of clinicians and health systems				X	
Data collection and merging datasets			X		
Regulatory issues (IRBs and consent)	X				
Stability of control intervention		X			
Implementing/delivering intervention across healthcare organizations			X		

1=little difficulty; 5=extreme difficulty

Challenge	Solution
Management of multiple chronic conditions varies across different healthcare systems.	Study facilitators developed different workflows to accommodate the variations in resources at every site. These were roles in the healthcare systems and required more multidisciplinary review of the proposed workflows.
The study team initially planned for structured, step-wise electronic tools that were time-consuming to use but would provide a detailed therapy plan.	After discussing the tool with medical directors and physicians, the team developed more user-friendly, less burdensome tools.
The initial sample size was based on broad estimates of the prevalence of multiple chronic conditions across the healthcare systems and was limited by lack of cluster-level detailed information.	In the planning phase, the cluster units were redefined from individual practitioners to practice sites. The team queried EHR systems with the new cluster definition and collaborated with statisticians at the NIH to establish an appropriate sample size.

SELECTED PUBLICATIONS & PRESENTATIONS

- Presentation: [Presentation to the NIH Pragmatic Trials Collaboratory Steering Committee](#) (May 2023)
- PCT Grand Rounds Presentation: [Improving Care for CKD, Diabetes and Hypertension in Health Systems](#) (April 2022)

Access the complete set of [ICD-Pieces resources](#).