

OUTCOMES AND QUALITY

CASE REPORT: QUALITY IMPROVEMENT PROJECTS

Global Multidisciplinary Cardiometabolic Care Delivery



A Blueprint for Success From UNITE

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ABSTRACT

Mortality and morbidity from cardiovascular disease continue to rise along with obesity and other cardiometabolic risk factors, making comprehensive management for cardiometabolic disease (CMD) imperative. Despite available treatments, gaps exist in CMD care. Revolutionizing the Delivery of Care in CV Disease and T2DM: The Pilot Cardiometabolic Clinic Initiative (UNITE) is a global initiative aimed at improving outcomes of cardiovascular disease risk in patients with type 2 diabetes mellitus. UNITE addresses gaps in CMD care by developing and implementing workflows and care delivery processes adapted to different health care systems and resource constraints. This article details the structure and methodology of the UNITE program, including clinic development and performance measurement, along with long-term sustainability and scalability to address the global burden of CMD. (JACC Case Rep. 2024;29:102669) © 2024 The Authors. Published by Elsevier on behalf of the American College of Cardiology Foundation. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Globally, cardiovascular disease (CVD) is the leading cause of death for patients with type 2 diabetes mellitus (T2DM). Mortality and morbidity from CVD continue to rise along with obesity and other cardiometabolic risk factors, making comprehensive management for cardiometabolic disease imperative.

TAKE-HOME MESSAGE

- UNITE is a global initiative that addresses gaps in CMD care by developing and implementing workflows and care delivery processes that are scalable, sustainable, and adapted to the local environment.

The global prevalence of diabetes is projected to reach 643 million people by 2030 with T2DM being the most common form of diabetes, accounting for over 90% of all diabetes worldwide.¹ Diabetes is economically burdensome for countries, health systems, people with diabetes, and their families. Between 2007 and 2021, global health expenditure due to diabetes grew from \$232 billion to \$966 billion for adults 20 to 79 years of age. This represents a 316% increase over 15 years, with the expectation that costs will continue to rise.¹

Despite the efficacy of current CVD preventive therapies in reducing cardiovascular risks and improving survival, there is still a lack of adherence

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**ABBREVIATIONS
AND ACRONYMS**

CVD = cardiovascular disease

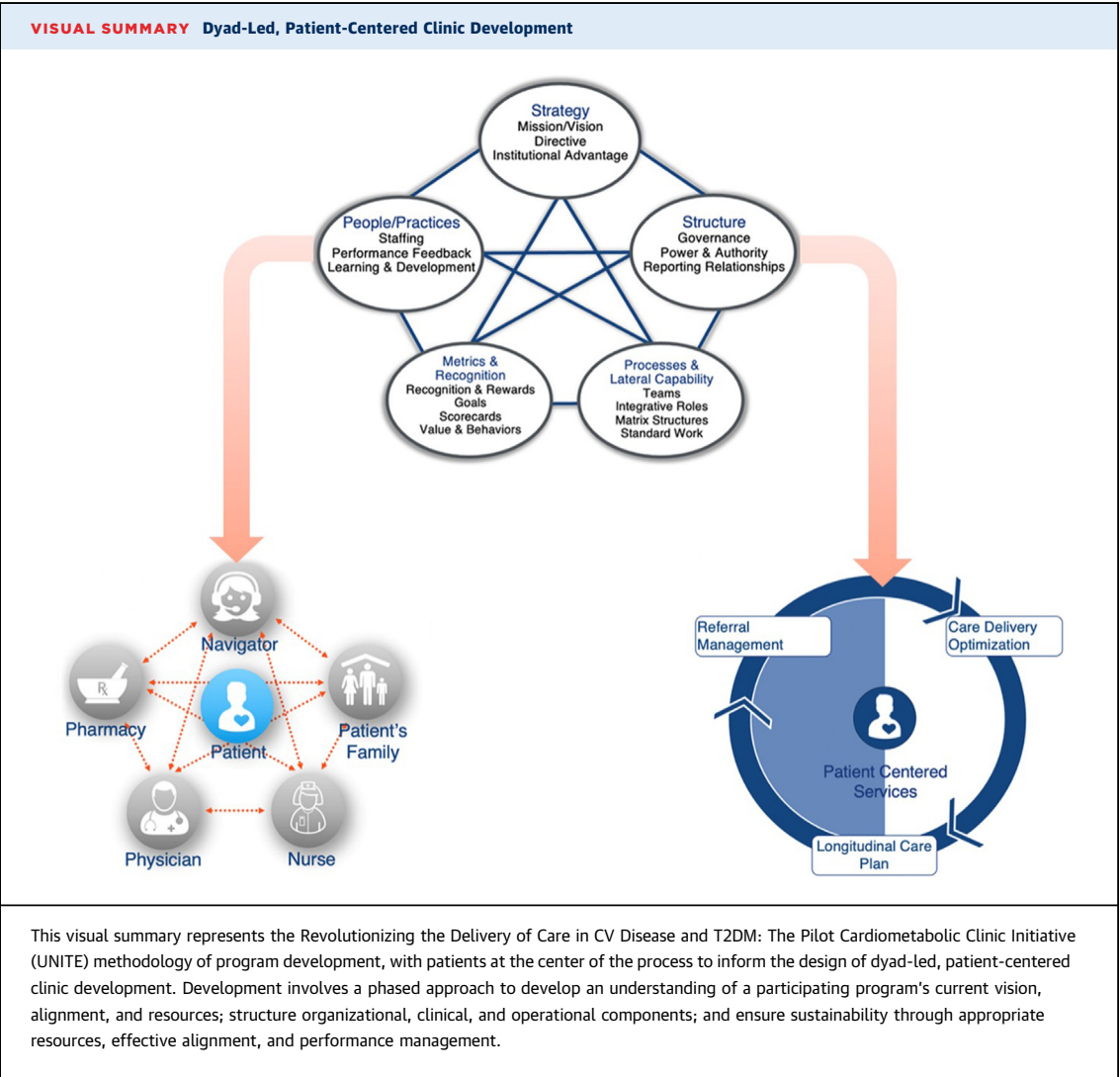
GDMT = guideline-directed medical therapy

T2DM = type 2 diabetes mellitus

UNITE = Revolutionizing the Delivery of Care in CV Disease and T2DM: The Pilot Cardiometabolic Clinic Initiative

to these agents, causing inadequate control of major CVD risk factors. Achieving therapeutic targets of the major 3 components of cardiometabolic disease (hypertension, hyperlipidemia, diabetes mellitus) has been reported in <20% of patients.² Variation in the treatment of patients with T2DM and atherosclerotic CVD is significant, even in a connected health care system such as the Veterans Affairs in the United States.³ There are multiple factors that impact variability and undertreatment, including adverse effects and perceived risks of medications; racial, gender, and geographic disparities; variations in protocols and practices across health systems; costs; and clinical inertia in failing to optimize preexisting therapies.⁴

The COORDINATE-Diabetes (Coordinated Care to Optimize Cardiovascular Preventive Therapies in Type 2 Diabetes) clinical trial demonstrated that coordinated, multifaceted interventions directed at adults with T2DM and atherosclerotic CVD improved the prescription of evidence-based therapies. A multifaceted approach was used to achieve success. Efforts included working with local care teams to understand the current state and barriers to the use of evidence-based therapies. This was followed by the development of care pathways that addressed barriers and supported the prescription of evidence-



based therapies. The coordination of multidisciplinary care using a team-based approach, clinician education with practical advice on delivery of guideline-directed medical therapy (GDMT), and patient-friendly educational materials were also key care delivery enhancements. Finally, teams were provided with performance feedback to measure individual patient progress and programmatic impact.⁵

PROJECT RATIONALE: GLOBAL HEALTH DISPARITIES IN CARDIOMETABOLIC CARE

Although many effective interventions for the management of cardiometabolic disease are available and affordable for all but the most low-income countries, treatment gaps remain due to disparities in clinician education, suboptimal prescribing practices, availability and affordability of newer medicines, and lack of coordinated care. Despite some challenges specific to individual regions or countries, there are common global opportunities that can be addressed with a thoughtfully designed approach to cardiometabolic care delivery and clinic development.

Revolutionizing the Delivery of Care in CV Disease and T2DM: The Pilot Cardiometabolic Clinic Initiative (UNITE) is a global initiative aimed at improving outcomes of CVD risk in patients with T2DM.

The goal of UNITE is to develop a long-term, scalable, and multidisciplinary global standard for cardiometabolic clinics through operational and clinical approaches to GDMT for patients with T2DM requiring aggressive treatment. Multidisciplinary teams, including primary care, cardiology, endocrinology, and others, coordinate care to address risk reduction and disease management. UNITE is dedicated to understanding real-life challenges for patients, caregivers, clinicians, and health systems and incorporating evidence into practice to enhance outcomes. This paper provides an overview of the model used for establishing a global system of training and capacity building for cardiometabolic clinics at initial sites in the United Arab Emirates, China, United States, and Argentina.

PROJECT DESCRIPTION AND DELIVERABLES

Key tactics to deliver on the goals of the UNITE project include the following:

- Shifting the focus from glycemic control to comprehensive management of cardiovascular risk through consistent and proportionate use of GDMT.
- Using strategies for integrated, effective care across specialties that include early detection and intervention and lifestyle management.
- Providing clinical and operational guidance for efficient functioning of a cardiometabolic clinic.

Programs participate in an assessment of vision, leadership, resources, and local patient populations followed by clinical and operational resource planning and the development of a pilot clinic (Table 1). Resource and implementation planning are performed through workshop-style settings that include both physician and administrative program leadership. Work is supported with a project plan and management team. Programs receive project support for 6 months to facilitate performance for clinic operations and patient outcomes.

CLINIC DEVELOPMENT METHODS. Interested programs begin by identifying program leaders who in turn identify key stakeholders to participate in the development of the program. Stakeholder roles include a cardiology physician champion, administrative lead, and additional specialty physicians where available. Additional clinical roles may include advanced practice providers, registered nurses, pharmacists, nutritionists, diabetes education specialists, cardiac and physical rehabilitation, information technology, revenue cycle, and finance. This core team participates in a workshop to create the clinic operational and care delivery structure.

The first step is to develop a vision statement, clearly define the population(s) to be served, and set overall care objectives. Whereas clinics may focus on either primary prevention, secondary prevention, or both, criteria for the target patient population selection—including clinical criteria and risk groups—must also be identified to anticipate potential patient volumes. The UNITE project team guides the local team to determine where these patients are within the health network and the how of initiating a referral to the cardiometabolic program. This may include referral education, building engagement with referral sources, and providing direction on information technology development within the electronic health record.

Teams receive guidance on operational elements for the clinic. Elements include where the patients will be seen and by whom, along with identifying days/time availability for the clinic to establish staffing requirements and build a clinic schedule template.

TABLE 1 Structure/Methodology for Developing Global Cardiometabolic Clinics

Activity	Staff	Goals
Develop working group	Program administrators	Identify key stakeholders that need to be involved in the development of the program—physician champion, administrative lead, APP, RN, pharmacy, nutrition, diabetes education, cardiac rehabilitation, IT, revenue cycle
Objective/vision for the clinic	Group	Identify the targeted patient population and high-level care objectives for these patients
Identify patient population	Physician champion/group	Create specific criteria for target patient population—site of care, clinical criteria, certain risk groups (to include potential volumes)
Care plan development	Group	Develop high-level care objectives that need to be met for these patients—intake, risk assessment, interventions—pharmacologic, lifestyle, education, care coordination, referrals based on risks—sleep apnea, obesity, fatty liver disease, nutrition, polypharmacy
Patient initiation	Group	Identify where these patients are within the network and how to initiate the referral—referral education/engagement, standard process/IT build
Clinic location	Program administration	Identify where the patients will be seen and by who, identify days/time availability for the clinic
Clinic operational plan	Program administration	Identify plan for provider schedule template, staffing requirements, other operational considerations
Patient intake	Group	Develop plan for initial patient assessment—risk assessment needs, clinical data requirements, and education needs
Care plan deployment	Group	Develop standard work based on risk and intervention need—pharmacologic (prior authorization), education, referrals to others, initiation of ancillary resources
Longitudinal care	Group	Develop longitudinal support plan
Performance management	Group	Identify and operationalize performance metrics— clinical outcomes, operational metrics, financial metrics—all with a goal of supporting a sustainable model Identify data elements and where they are located Develop a dashboard template

APP = advanced practice provider; IT = information technology; RN = registered nurse.

Next, the team works to define a plan of care with high-level care objectives for patients. These include general intake with risk assessment and referrals as indicated and standardized interventions (eg, pharmacologic, lifestyle, education) with overarching care coordination for all. Clinics also develop criteria to determine when patients graduate from the program, or if they are followed longitudinally on an annual basis once they are on a stable management plan. The use of standard work to ensure consistency in care delivery is emphasized.

Throughout the program development, there is a focus on clinical and operational metrics that can be collected to support performance management. Each program identifies specific clinical data they wish to collect to measure process and patient outcomes. Operational data to understand clinic utilization and patient and provider satisfaction is also identified—all with a goal of supporting a sustainable model. Once the clinic is operational, data elements are used to create reports to populate a dashboard to monitor clinic performance.

A key aspect of the program is the ability to tailor clinic strategies based on regional needs (Table 2). This is critical in assuring that programs fit the cultural communities they are intended to serve and the structure of the health care systems that support them. In clinics established thus far, health care sys-

tems in the various countries have been vastly different. Despite these vast differences, clinics could be established that were financially sustainable and provided improved health care delivery for patients at risk for or with established cardiometabolic disease.

The UNITE project team is the constant between each country and program. A consistent team to work with each local program provided a conduit for sharing best practices for clinic development and resources within and between countries.

PERFORMANCE MEASUREMENT

The next phase of this program includes the development of a pilot outcomes reporting tool where clinics are asked to submit data to support patient outcomes, clinic processes, and program performance measurement. Specific outcome, process, and operational metrics are presented in Tables 3 and 4. Four clinics in 2 countries are participating in a demonstration model for data collection and performance reporting. Two programs in Argentina will be coupled with 2 programs in the United States, enabling the development of performance reporting among programs with significantly different infrastructure and human resources. Centers will receive individualized and aggregate outcome summaries

TABLE 2 Initial Program Design Descriptions

	Hospital Espanol de Mendoza, Mendoza, Argentina	Hospital Britanico de Buenos Aires, Buenos Aires, Argentina	Tampa General Hospital/USF - Tampa, Florida, United States	St Elizabeth Healthcare, Covington, Kentucky United States
Patient population focus	Secondary prevention	Secondary prevention	Primary and secondary prevention	Secondary prevention
Referral source	Patients hospitalized with CAD, other cardiology programs, nephrology, community referrals and screening	Patients identified from existing hypertension center panel with hospital insurance plan coverage	Internal cardiology referrals; focus on interventional cardiology post-ACS, PCI, and CABG External referrals from primary care providers with focus on CT plaque characterization for early disease detection	High-risk patients from cardiometabolic physician's existing patient panel
Clinic staffing	Cardiologist and internal medicine resident with referrals as indicated	Cardiologist, endocrinologist, nutrition, and cardiology technician with referrals as indicated	Cardiologist, APP, and RN coordinator, with referrals as indicated	Cardiologist, APP, MA, and pharmacist, with referrals as indicated
Planned visit cadence (varies with patient needs)	0, 2, 6, 12, and 24 weeks; 12, 18, 24, and 36 months	0, 2, 6, 12, and 24 weeks, and 12 and 18 months	0, 6, 12, and 24 weeks, and 12 and 18 months	0, 2, 6, 12, and 24 weeks, and 12 and 18 months

ACS = acute coronary syndrome; APP = advanced practice provider; CABG = coronary artery bypass graft; CAD = cardiovascular disease; CT = computed tomography; MA = medical assistant; PCI = percutaneous coronary intervention; RN = registered nurse.

from MedAxiom to further inform operational and process improvement. UNITE aims to demonstrate that clinic models designed with local input and standardized care delivery can demonstrate patient

and program performance success, despite vastly different health care environments. Outcomes from this pilot program will educate and guide development of programs in other countries taking health

TABLE 3 Patient Metrics With Submission Frequency

Cardiometabolic Program Metric Submission				
	Measure	Baseline	12 Weeks	24 Weeks
Patient demographics	Age Gender at birth Ethnicity ACC/AHA ASCVD risk score			
Patient outcome measures	SBP DBP Hgb A1C LDL-C Triglycerides Weight BMI Body fat % Waist circumference Physical activity Tobacco cessation Hospitalization for acute CV event			
Patient process measures	Patients on statin Patients on nonstatin lipid lowering Patients on ACE/ARB Patients on GLP-1RA STOP-Bang or Berlin Scale Completed			

ACC = American College of Cardiology; ACE = angiotensin-converting enzyme; AHA = American Heart Association; ARB = angiotensin receptor blocker; ASCVD = atherosclerotic cardiovascular disease; BMI = body mass index; CV = cardiovascular; DBP = diastolic blood pressure; GLP-1RA = glucagon-like peptide-1 receptor agonist; HGB A1C = hemoglobin A1C; LDL-C = low-density lipoprotein cholesterol; SBP = systolic blood pressure.

TABLE 4 Program Metrics With Submission Frequency							
Measure		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6
Program Performance Measures	Number of Patients Seen						
	Number of Patients Who Completed First 4 Visits						
	Number of Patients Who Completed Visits Through 6 Months						
	Percent of Appointment No Shows						
	Patient Satisfaction Score						
	Physician Satisfaction Score						

care resources, population characteristics, and cultural considerations into account. This type of program may lend itself to opportunities for future research efforts.

PROJECT OUTCOME AND IMPACT

Team members in each program are engaged and committed to success. Working with clinics in different countries with different systems for delivering health care has presented opportunities for creativity and knowledge dissemination. It has also provided challenges. As expected, the global nature of the project requires an understanding of cultural differences and navigating language barriers. All sites share financial and space constraints of varying degrees, which in turn impacts resource allocation. Clinician and administrator bandwidth has also been a common concern with one site experiencing leadership turnover that slowed progress. Communication among multidisciplinary teams at each site has been critical, enhanced by the preexisting, collaborative culture at most sites. Regularly scheduled meetings have been used to keep team members engaged and clinic development on track. Once clinics are launched, team members meet to discuss process improvement opportunities, including the effectiveness of care pathways and workflows, referrals, and patient scheduling.

FUTURE DIRECTIONS/NEXT STEPS

Ensuring sustainability and scalability for these clinics is a focus of the UNITE project. Partnering closely with teams to understand the local care environment sets programs up for long-term success. The program aims to work with existing systems and resources vs relying on grant support, where short-term funding may impact clinic sustainability once the grant is complete. UNITE focuses on creating clinic workflows and care delivery processes that are modified to fit the local environment instead of imposing a prescriptive approach to define how

clinics function. While promoting evidence-based, standardized care, the standardization is adapted to each facility and each country, creating a real-world approach to care delivery.

Sharing best practices for developing cardiometabolic clinics is central to the UNITE project. Details of the step-by-step implementation process, challenges, and solutions provide a roadmap for colleagues across the globe. This, however, is only one-half the journey. Developing a successful program also requires using robust change management strategies. By actively engaging stakeholders, addressing potential concerns, and tailoring implementation to local settings, UNITE helps to bridge the gap between knowledge and action.

UNITE provides a blueprint of best practices, coupled with effective change management pathways, to empower cardiovascular clinicians worldwide to establish a comprehensive cardiometabolic program, addressing the impact of T2DM, CVD, and population health on a global scale. Collaboration is the key to unlocking the full potential of communal knowledge through UNITE, building a future in which cardiometabolic disease is managed worldwide.

KEY TAKEAWAYS

- There is a global need for improved cardiometabolic disease care.
- The UNITE program is a global initiative that aims to address gaps in cardiometabolic disease care by developing and implementing workflows and care delivery processes adapted to the local environment.
- The UNITE program uses a multifaceted, patient-centered approach designed to be scalable and sustainable.

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