Clinical Practice and Health System Change Guide:

Principles of Diabetes and Cardiovascular Management for Ambulatory Care Settings

American Heart Association.

Cardiovascular disease (CVD) is the leading cause of death and a major cause of heart attacks, strokes, heart failure and disability for people with type 2 diabetes–yet only about half of the patients recognize their risk.[1,2,3] According to the Centers for Disease Control and Prevention, among U.S. adults age 21 years or older with diabetes (of whom 95% have type 2 diabetes):[4]
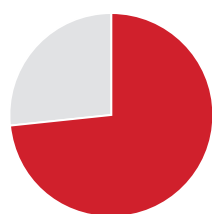
15.6%

have an A1C value
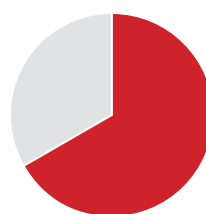higher than 9%.
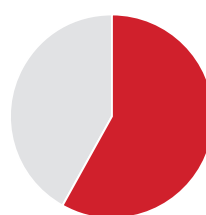
Only **58.2%**

with no self-reported CVD who were eligible for statin therapy were on a lipid-lowering medication.

73.6%

had systolic blood pressure of 140 mm Hg or higher or diastolic blood pressure of 90 mm Hg or higher, or they were on prescription medication for high blood pressure.

Only **66.9%**

with self-reported CVD who were eligible for statin therapy were on a lipid-lowering medication.

To comprehensively and systematically address and reduce the national public health impact of type 2 diabetes and CVD, the American Heart Association and the American Diabetes Association launched Know Diabetes by Heart™. The collaborative initiative focuses on CVD risk reduction in clinical care systems and practices by supporting patients and clinical care providers with ways to better manage type 2 diabetes patients and prevent CVD.

[1] "Grau, María, et. al. Risk of Cause-Specific Death in Individuals With Diabetes: A Competing Risks Analysis; Diabetes Care 2016 Nov; 39(11): 1987-1995; http://care.diabetesjournals.org/content/39/11/1987.

[2] "The Emerging Risk Factors C. Diabetes mellitus, fasting blood glucose concentration, and risk of vascular disease: a collaborative meta-analysis of 102 prospective studies. Lancet. 2010;375(9733):2215-2222. https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(10)60484-9/fulltext

[3] "American Heart Association and American Diabetes Association. 2018. People with T2D Baseline Survey. Online survey; USA. Conducted by The Harris Poll in September 2018.

[4] "Centers for Disease Control and Prevention. National Diabetes Statistics Report, 2017. Atlanta, GA: Centers for Disease Control and Prevention, US Department of Health and Human Services; 2017.

INTRODUCTION

This guide provides change principles and best practices to achieve optimal cardiometabolic health management for people with type 2 diabetes. It focuses on three core areas, specifically for ambulatory care settings:

- Principles for providers, health systems and care teams
- Population health best practices through quality improvement
- Best practices in supporting patients in care plan management

GROUNDED BY CLINICAL SCIENCE AND OUTCOMES-BASED APPROACHES

This guide is based on the science and clinical practice guidelines of the American Heart Association and American Diabetes Association. The core principles of diabetes management and CVD prevention remain focused on the following (consistent with AHA's Life's Simple 7).

1. Measure and monitor height and weight (waist circumference should be considered).

2. Measure and track blood pressure accurately.

3. Measure and track A1C at intervals.

4. Measure and track lipid levels (total cholesterol, HDL) and assess ASCVD risk.

5. Assess tobacco use during every patient visit and counsel accordingly.

6. Assess physical activity level during every visit.

7. Assess dietary pattern during every visit.

A comprehensive patient-centered approach to a patient's lifestyle habits, blood pressure, blood glucose and estimated 10-year risk of a future ASCVD event is the first step to management. Prevention and treatment strategies must include a strong focus on lifestyle optimization (tobacco cessation and reduced exposure to secondhand smoke; improvement in diet; and increased physical activity) to reduce the risk of CVD and future ASCVD events.

For additional guidance on care for people with type 2 diabetes, please go to the AHA/ACC's 2019 Guideline on the Primary Prevention of Cardiovascular Disease and the ADA's 2019 Standards of Medical Care in Diabetes. [5,6]

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[5] « Arnett DK, Blumenthal RS, Albert MA, Buroker AB, Goldberger ZD, Hahn EJ, Himmelfarb CD, Khera A, Lloyd-Jones D, McEvoy JW, Michos ED, Miedema MD, Munoz D, Smith SC Jr, Virani SS, Williams KA Sr, Yeboah J, Ziaeian B. 2019 ACC/AHA guideline on the primary prevention of cardiovascular disease: a report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines. Circulation. 2019; 000:e•••–e•••. DOI: 10.1161/CIR.0000000000000678

[6] « American Diabetes Association. Standards of Medical Care in Diabetes—2019. Diabetes Care; 42(Supplement 1): S1—S93. https://care.diabetesjournals.org/content/42/Supplement_1

COMPREHENSIVE PATIENT-CENTERED APPROACH FOR THE MANAGEMENT OF TYPE 2 DIABETES AND CARDIOVASCULAR DISEASE

Principles for Health Care Systems, Providers and Care Teams

Principle	Outpatient Strategy	Resources
Establishing Foundational Concepts for Teams		
Make diabetes management and reduction of CVD risk a priority for the health system.	Designate a diabetes and cardiovascular champion (or champions) in your practice.	
	Identify in your practice a referral plan (consistent referrals to specialists, nutritionists, DSMES, etc.).	
	Ensure that members of the care team (PCP, NP, PA, CDE, nutritionist, neurologist, nephrologist, cardiologist, etc.) have delineated roles and responsibilities for intake, recording of vital signs, diagnosis and treatment plan, education, counseling and referral.	ASCVD Risk Calculator http://static.heart.org/riskcalc/app/index.html#!/baseline-risk
	Monitor A1C, BP and lipid control, renal function and other health parameters as per clinical guidelines.	
	Assess for ASCVD risk factors, ASCVD, staging of chronic kidney disease, heart failure history and hypoglycemia risk event. Consider barriers to care (socioeconomic, transportation, etc.).	ASCVD Risk Calculator KnowDiabetesbyHeart.org/riskcalc ADA Standards of Medical Care for Diabetes Management – 2019 https://professional.diabetes.org/content-page/practice-guidelines-resources
Identifying and Assessing Processes		
Develop a policy and process to address cardiometabolic health for every patient.	Develop protocols/flowcharts for how patients with diabetes and CVD should be identified, managed and tracked.	
	Use a local patient-centered medical home (PCMH) model or identify referral protocols as needed.	
	Identify follow-up protocols.	
Train and evaluate clinical staff on assessment protocols related to blood glucose, blood pressure, lipids, and lifestyle modification recommendations.	Provide resources for guidance and education.	Know Diabetes by Heart Pocket Guide https://www.KnowDiabetesbyHeart.org/Professional
	Assess adherence to lifestyle and pharmacological management (A1C, BP, ACE/ARB, renal and lipid control) as appropriate.	Life's Simple 7 https://www.heart.org/en/healthy-living/healthy-lifestyle/ my-life-check--lifes-simple-7
Prepare patients and care team for effective diabetes and CVD management during office visits.	Establish a protocol for patient management. Contact patients to confirm appointments; instruct them to bring medications and a medication list; and be prepared to discuss perceived or real problems with medications or medication adherence.	
	Use flowchart to identify care gaps.	
	Design workflows and use tools to ensure order/actions.	
Identifying Clinical Processes		
Systematically leverage evidence-based guidelines and treatment protocols for diabetes and CVD.	Effectively implement new diabetes science, specifically AHA and ADA guidelines.	ADA Standards of Medical Care for Diabetes Management – 2019. https://professional.diabetes.org/content-page/practice- guidelines-resources
	Develop and deploy diabetes, hypertension, renal, lipid control and smoking protocols as appropriate.	
	Refer recalcitrant/resistant patients (A1C, BP, lipids) to specialists, particularly certified diabetes educators.	ACC/AHA Guideline on the Primary Prevention of Cardiovascular Disease: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines. Arnett et al. Circulation. 2019. November 2018. https://doi.org/10.1161/CIR.0000000000000678
	Overcome treatment inertia; implement follow-up protocols to drive a long-term treatment plan and self-management.	
Equip direct-care staff to facilitate patient self-management.	Identify and implement a patient-centered plan that includes shared decision-making of patient and provider. Focus on lifestyle modification (Life's Simple 7) and medication management.	
	Establish a blood glucose and/or blood pressure monitoring program for patient at home (as appropriate). Establish follow-up protocols.	
Assessing Impact		
Assessing change and adapting results.	Conduct a quarterly assessment of the organization's adherence to policies and protocols. Metrics that are tracked should focus on patient outcomes.	
	Establish review processes to understand the effect of changes and shifts in priorities. Identify needed changes. Complete Plan Do Study Act Plan (PDSA) - test and document changes of change plan.	

COMPREHENSIVE PATIENT-CENTERED APPROACH FOR THE MANAGEMENT OF TYPE 2 DIABETES AND CARDIOVASCULAR DISEASE

Population Health: Quality Improvement through Health Systems

Principle	Ambulatory Strategy	Resources
Use a clinical registry to identify, track and manage dyslipidemia and hypertension in patients with type 2 diabetes.	Implement a cardiometabolic disease registry (diabetes, dyslipidemia, and hypertension).	Target: Type 2 Diabetes™ https://www.heart.org/en/professional/quality-improvement Check.Change.Control.Cholesterol™ https://www.heart.org/en/health-topics/cholesterol/cholesterol-tools-and-resources/cholesterol-recognition Target: BP™ https://targetbp.org/
	Consider using electronic medical records to identify at risk patient, create clinical action lists or notifications, and apply ASCVD risk estimation calculations to appropriate patients.	ASCVD Risk Calculator http://static.heart.org/riskcalc/app/index.html#!/baseline-risk
	Identify patients with elevated risk factors (A1C, lipids or BP), elevated ASCVD risk, or currently smoking; diagnose and treat as appropriate. Focus efforts on populations at higher risk, such as women, Hispanics, African Americans, etc.	
	Make reporting accessible for administration and providers.	
	Use a defined process for follow-up and identify and engage patients not otherwise engaging in their care plan.	
Use clinician-managed protocols for management and treatment.	Develop and implement protocol templates and customize to point-of-care treatment.	
Use practice data for performance and quality improvement.	Follow nationally-endorsed A1C, BP, and lipid control metrics for practice or health system.	
	Ensure that clinical medical results are reviewed consistently and systemically among care teams and drive improvement activities across the organization (Informing PDSA Plan).	
	Review results on a quarterly basis, as feasible to track progress over time.	
Assess impact.	Implement a quality improvement review process to monitor change and adapt processes.	

Best Practices for Supporting Patients in Managing their Care Plan

Principle	Ambulatory Strategy	Resources
Use each patient visit to optimize treatment.	Provide patient with tools to support discharge, goal-setting and a treatment plan.	KnowDiabetesbyHeart.org for patient materials http://www.Diabetes.org http://www.heart.org/diabetes Life's Simple 7 https://www.heart.org/en/healthy-living/healthy-lifestyle/ my-life-check--lifes-simple-7 DSMES Locator https://www.diabeteseducator.org/living-with-diabetes/ find-an-education-program
	Measure and document risk factors (A1C, BP and lipids) and renal function as appropriate.	
	Discuss lifestyle changes (Life's Simple 7), psychosocial barriers, smoking status and a treatment plan.	
	Reconcile medications (cardiovascular and renal).	
Support patients in self-management.	Use an online portal or other mechanisms to provide patient information and tools at home.	
	Create patient-centered follow up plans to monitor progress and revise recommendations.	
	Train patient experts within practice.	
	Provide self-management support to patients, and when appropriate, referrals for DSME or lifestyle change programs. Be familiar with DSMES programs in your area and have these available for patients when referrals are made.	

American Heart Association.