APRIL 2023

CARDI•OH
Ohio Cardiovascular and Diabetes Health Collaborative

Building Your Person-Centered Diabetes Care Team

Contributing authors on behalf of Team Best Practices:
Michael B. Holliday, MD, University of Cincinnati
Sarah M. Aldrich Renner, PharmD, University of Toledo
Saundra L. Regan, PhD, University of Cincinnati
Carolyn Harmon Still, PhD, Case Western Reserve University

Diabetes is a common and complex chronic condition that can result in unnecessary suffering if not well managed.

Studies show that team-based care (TBC) involving the patient, primary care provider, and at least one other professional with specific expertise results in better glycemic, lipid, and blood pressure outcomes.[1] Team members can help patients with diabetes self-management, glycemic management, complication assessment and treatment, and reduction of barriers to care, including behavioral health and social determinants of health.[2]

Some health care organizations have established multidisciplinary workflows for chronic disease management. However, many providers will need to actively engage with other health care professionals to form a diabetes care team:

- Endocrinologists
- Clinical pharmacists
- Certified diabetes care and education specialists (CDCES)
- Dietitians
- Social workers
- Mental and behavioral health professionals
- Community health workers (CHW)
- Other specialists (e.g., ophthalmologists, nephrologists, cardiologists, or podiatrists)

Members of the Diabetes Care Team

- **Endocrinologists** can help classify a patient's diabetes. Over 40% of type 1 diabetes occurs after the age of 30. However, many patients with type 1 diabetes are initially misclassified, and potentially mistreated, as having type 2 diabetes.[3] Referral to an endocrinologist may be indicated if one or more clues point to a diagnosis other than type 2 diabetes:
  - Younger age at diagnosis (<35 years) with lower BMI (<25 kg/m^2)
  - Unintentional weight loss
  - Ketoacidosis and glucose >360 mg/dL at presentation
  - Rapid progression to insulin therapy[4]

  Endocrinologists can also help primary care clinicians with glycemic management when their patient:
  - Does not reach their glycemic target within a certain time (such as six months)
  - Has unexplainable blood sugar fluctuations.
  - Develops complications from diabetes.
  - Has severe or frequent hypoglycemia.[5]

- **Clinical pharmacists** can apply their knowledge of medications to guideline-directed drug therapy. In addition, pharmacists are trained to educate patients about their regimens and increase access to needed medications. Clinical pharmacists can help with:
  - Medication review to address adherence, deprescribing opportunities, and guideline-directed adjustment in regimens.
  - Medication access through medication assistance programs, formulary review, and cost-effective alternative drug classes.
  - Timely follow-up through pharmacist-led chronic disease visits.
  - Complex regimens with multiple drugs, high-dose insulin, or medications that require titration.[6,7]

- **CDCES** deliver education focused on self-managing diabetes and contribute to improving the well-being and health outcomes of people with diabetes. While there is no single or correct care model for self-management of diabetes, CDCES can: [8,9]
  - Implement best practices models and activities for DSMES programs.
  - Deliver proactive and reactive diabetes education to support or sustain individuals in self-managing their diabetes.
  - Teach individuals the behaviors and skills needed to continue diabetes self-management once they are no longer in a formal self-management program.
  - Expand diabetes networks that incorporate group and individualized education programs and care.
  - Offer various education modalities or alternatives for self-managing diabetes, including nurse or nurse practitioner-led and lay or community health worker models.

- **Dietitians** have expertise in food and nutrition for disease management.[10,11] Dietitians provide medical nutrition therapy with individualized nutrition care plans that incorporate food preferences and cultural considerations to support maintaining healthy blood glucose levels. Research has shown that dietitian visits were strongly associated with reduced hospitalizations among patients with diabetes.[11,12]

- **Social workers**, who specialize in addressing social determinants of health, can identify potential barriers to care and connect patients to needed resources. For example, the American Diabetes Association's 2022 *Standards of Medical Care in Diabetes* recommends referral to social workers to assist patients with needs such as housing and those patients who do migrant agricultural work.[13]

- **Mental and behavioral health professionals** can improve diabetes care quality and reduce costs when involved with team-based care.[14] Depression is twice as common in patients with diabetes and may share common biological origins.[15] Depression negatively impacts self-care, glycemic control, complications, employment, and health costs in patients with diabetes. Anxiety and eating disorders are also more common in these patients.[16]

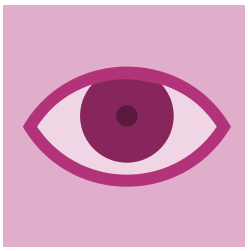
  - **Psychiatrists** treat patients whose mental health diagnosis, severity, or treatment regimen is beyond the scope of primary care. Psychiatrists can also tailor drug regimens to minimize adverse cardiometabolic effects, such as weight gain, insulin resistance, hypertension, and dyslipidemia.[17]
  - **Therapy practitioners**, including psychologists, clinical social workers, drug and alcohol use counselors, and licensed professional counselors, also treat comorbid mental health disorders. Therapy practitioners support standard behavioral interventions like goal setting and self-monitoring with newer techniques such as acceptance and commitment therapy (ACT). ACT has been shown to improve glycemic control, acceptance of diabetes, and self-care activities.[18] Therapists can also help patients address diabetes distress, which is a negative psychological reaction to the burdens of their disease. Diabetes distress occurs in 38% to 48% of patients with diabetes, over a period of at least 18 months.[13]

- **Community health workers (CHWs)** are knowledgeable about self-management, the health care system, and resources available to help patients with unmet social needs overcome barriers to managing their diabetes.[19] However, primary care providers may not be aware of CHWs and other community-based resources.[20] CHWs tend to be from a neighborhood that is the same or like their clients' and have a shared awareness of culture, language, and barriers to health that are unique to a community.[21] A CHW's role includes:

  - Reinforcing self-management training, including nutrition and self-monitoring tasks like checking blood pressure and measuring blood glucose.
  - Navigating a complex health care system with the patient by accompanying them to health care appointments.
  - Finding resources for social needs, such as food security, clothing, transportation, and housing.
  - Helping with paperwork, including applications for food assistance, Section 8 housing, Medicaid, disability, or supplemental security income, and other applications for patients who do not see well, cannot read, or cannot understand everything that needs to be included in the different applications.[21,22]

Complication Assessment and Treatment

A patient may experience complications requiring referral to a specialist:



- **Diabetic retinopathy:** One-third of patients with diabetes have diabetic retinopathy. Referral to an **ophthalmologist** is recommended for diabetic macular edema, moderate or worse nonproliferative diabetic retinopathy, or any proliferative diabetic retinopathy.[23]
- **Diabetic nephropathy:** This condition occurs in 30% to 40% of patients with diabetes. Referral to a **nephrologist** is recommended when the cause of nephropathy is uncertain, kidney function is worsening rapidly, or the estimated glomerular filtration rate (eGFR) is <30 mL/min/1.73 m^2.[23]
- **Macrovascular complications:** Myocardial infarction, cerebrovascular disease, and peripheral vascular disease are far more likely in patients with diabetes.[24] Primary care providers can refer to **cardiologists, neurologists, and vascular surgeons**, respectively, when these complications are suspected.
- **Diabetic foot disease:** Referral to a foot care specialist such as a **podiatrist** is recommended for patients who smoke, or experience a loss of protective sensation, structural abnormalities of the feet, or peripheral vascular disease.[23]

Goals of Diabetes Care

Effective glycemic control safely prevents complications from diabetes, optimizes quality of life, and is patient-centered. To meet these treatment goals, health care professionals and the patient engage in a complex process described in the figure below.[25]

1. **Assess Key Patient Characteristics**
   - Current lifestyle
   - Comorbidities
   - Clinical characteristics
   - Issues such as motivation and depression
   - Socioeconomic context
2. **Consider Specific Factors that Affect Choice of Treatment**
   - Individualized A1C target
   - Impact on weight and hypoglycemia
   - Side effect profile of medication
   - Complexity of regimen
   - Likelihood of promoting adherence and persistence
   - Access, cost, and availability of medication
3. **Share Decision Making to Create a Management Plan**
   - Involve an educated and informed patient
   - Seek patient preferences
   - Empower the patient
   - Ensure access to diabetes self-management education and support (DSMES)
4. **Agree on Management Plan**
   - Specify SMART goals
5. **Implement Management Plan**
   - Patients not meeting goals generally should be seen at least every three months
6. **Monitor and Support**
   - Emotional well-being
   - Tolerability of medication
   - Glycemic status
7. **Review Management Plan**
   - Mutual agreement on changes
   - Timely implementation of changes to avoid therapeutic inertia
   - Regular review of decision cycle

Adapted from *Decision cycle for patient-centered glycemic management in type 2 diabetes*

Resources

The following resources outline ways to identify and/or work with diabetes care team members:

- **Endocrinologists and Other Subspecialists**
  - **High Value Care Coordination (HVCC) Toolkit:** American College of Physicians' resource with tools for coordinating care with specialists. acponline.org/clinical-information/high-value-care/resources-for-clinicians/high-value-care-coordination-hvcc-toolkit
  - **When to Refer**: American Association of Clinical Endocrinology podcast on continuous glucose monitoring (CGM) resources for primary care professionals. pro.aace.com/cgm/toolkit/when-to-refer
  - **eGFR Calculator**: National Kidney Foundation tool that calculates eGFR and gives recommendations for nephrology referral based on eGFR and albumin to creatinine ratio (ACR). kidney.org/professionals/kdoqi/gfr_calculator
  - **Find a Provider**: Ohio Department of Medicaid web-based resource where patients can search for providers. ohiomh.com/home/findaprovider
- **Clinical Pharmacists**
  - **How to Integrate Clinical Pharmacists into Primary Care**: American Academy of Family Physicians (AAFP) resource (subscription required). aafp.org/fpm/2021/0500/p12.html
  - **Embedding Pharmacists into the Practice**: American Medical Association (AMA) resource from the STEPS forward educational series. edhub.ama-assn.org/steps-forward/module/2702554

Access Cardi-OH's Expanded Resources

- Navigating Barriers to Medication Access cardi-oh.org/best-practices/patient-adherence/navigating-barriers-to-medication-access
- Diabetes Distress: Screening Tools and Intervention Strategies cardi-oh.org/best-practices/lifestyle/diabetes-distress-screening-tools-and-intervention-strategies
- Diabetes Self-Management Education and Support: Provider Use and Patient Benefits. cardi-oh.org/best-practices/lifestyle/diabetes-self-management-education-and-support-provider-use-and-patient-benefits
- Ohio Department of Medicaid: 2021 Summary of Diabetes Education cardi-oh.org/best-practices/lifestyle/ohio-department-of-medicaid-2021-summary-of-diabetes-education
- Mental Health and Chronic Conditions: Treating the Whole Patient to Improve Self-Care cardi-oh.org/best-practices/lifestyle/mental-health-and-chronic-conditions-treating-the-whole-patient-to-improve-self-care
- Ohio Pathways Community HUBs: Understanding the Benefits for Patients with Diabetes cardi-oh.org/best-practices/social-determinants/ohio-pathways-community-hubs-understanding-the-benefits-for-patients-with-diabetes

- **CDCES**
  - **Make a Referral:** Association of Diabetes Care & Education Specialists tool that includes patient selection, referral indications, and the referral process.
    diabeteseducator.org/practice/provider-resources/make-a-referral
  - **DSMES Toolkit:** Centers for Disease Control (CDC) resource that outlines how to make DSMES available to patients.
    cdc.gov/diabetes/dsmes-toolkit/index.html
- **Dietitians**
  - **Referrals and Primary Care Partnership**: List of Academy of Nutrition and Dietetics resources to support team-based care.
    eatrightpro.org/payment/getting-started/referrals-and-primary-care-partnership
- **Social Services**
  - **Findhelp Search**: A free tool searchable by zip code for services and support that address social determinants of health.
    findhelp.org
- **Community Health Workers**
  - **Addressing Chronic Disease Through Community Health Workers:** CDC resource on incorporating CHWs into team-based care.
    cdc.gov/dhdsp/docs/chw_brief.pdf
  - **Map of Community Health Worker HUBs**: Pathways Community Hubs map.
    pchi-hub.org/hub-profiles
- **Mental and Behavioral Health Providers**
  - **Implement the Collaborative Care Model**: American Psychiatric Association (APA) resource on how to implement the collaborative care model, including sample tools and resources.
    psychiatry.org/psychiatrists/practice/professional-interests/integrated-care/implement
  - **Behavioral Health Treatment Services Locator:** Service locator from Substance Abuse & Mental Health Services Administration (SAMHSA).
    findtreatment.samhsa.gov

References

1. Levengood TW, Peng Y, Xiong KZ, et al. Team-based care to improve diabetes management: a community guide meta-analysis. Am J Prev Med. 2019;57(1):e17-e26. doi:10.1016/j.amepre.2019.02.005.
2. American Diabetes Association. Standards of medical care in diabetes- 2021 abridged for primary care providers. Clin Diabetes. 2021;39(1):14-43.doi: 10.2337/cd21-as01.
3. Thomas NJ, Lynam AL, Hill AV, et al. Type 1 diabetes defined by severe insulin deficiency occurs after 30 years of age and is commonly treated as type 2 diabetes. Diabetologia. 2019;62(7):1167-1172. doi: 10.1007/s00125-019-4863-8.
4. Holt RIG, DeVries JH, Hess-Fischl A, et al. The management of type 1 diabetes in adults. A consensus report by the American Diabetes Association (ADA) and the European Association for the Study of Diabetes (EASD). Diabetologia. 2021;64(12):26092652. doi: 10.1007/s00125-021-05568-3.
5. ACP Diabetes Monthly and the American College of Physicians. When should a patient be referred to a specialist? https://diabetes.acponline.org/archives/2013/07/12/8.htm. Published July 2013. Accessed January 2022.
6. Galt KA, Demers RF, Herrier RN. ASHP statement on the pharmacist's role in primary care. American Journal of Health-System Pharmacy. 1999;56(16):1665-1667. https://doi.org/10.1093/ajhp/56.16.1665.
7. Choe HM, Standiford CJ, Brown MT. AMA STEPS Forward: Embedding Pharmacists Into the Practice Collaborate with pharmacists to improve patient outcomes. https://edhub.ama-assn.org/steps-forward/module/2702554. Published June 2017. Accessed February 2022.
8. Norris SL, Engelgau MM, Narayan KM. Effectiveness of self-management training in type 2 diabetes: a systematic review of randomized controlled trials. Diabetes Care. 2001;24(3):561-587. doi: 10.2337/diacare.24.3.561.
9. Pastors JG, Warshaw H, Daly A, et al. The evidence for the effectiveness of medical nutrition therapy in diabetes management. Diabetes Care. 2002;25(3):608-613. doi: 10.2337/diacare.25.3.608.
10. Evert AB, Boucher JL, Cypress M, et al. Nutrition therapy recommendations for the management of adults with diabetes. Diabetes Care. 2013;36(11):3821-3842. doi: 10.2337/dc13-2042.
11. Peyrot M, Rubin RR, Funnell MM, Siminerio LM. Access to diabetes self-management education: results of national surveys of patients, educators, and physicians. Diabetes Educ. 2009;35(2):246-263. doi: 10.1177/0145721708329546.
12. Robbins JM, Thatcher GE, Webb DA, Valdmanis VG. Nutritionist visits, diabetes classes, and hospitalization rates and charges: The Urban Diabetes Study. Diabetes Care. 2008;31(4):655-660. doi: 10.2337/dc07-1871.
13. American Diabetes Association Professional Practice Committee. 1. improving care and promoting health in populations: standards of medical care in diabetes—2022. Diabetes Care. 2022;45(Suppl 1):S8-S16. doi: 10.2337/dc22-S001.
14. Reiss-Brennan B, Brunisholz KD, Dredge C, et al. Association of integrated team-based care with health care quality, utilization, and cost. JAMA. 2016;316(8):826-834. doi: 10.1001/jama.2016.11232.
15. Moulton CD, Pickup JC, Ismail K. The link between depression and diabetes: the search for shared mechanisms. Lancet Diabetes Endocrinol. 2015;3(6):461-471. doi: 10.1016/S2213-8587(15)00134-5.
16. Ducat L, Philipson LH, Anderson BJ. The mental health comorbidities of diabetes. JAMA. 2014;312(7):691-692. doi: 10.1001/jama.2014.8040.
17. Abosi O, Lopes S, Schmitz S, Fiedorowicz JG. Cardiometabolic effects of psychotropic medications. Horm Mol Biol Clin Investig. 2018;36(1). doi: 10.1515/hmbci-2017-0065.
18. Sakamoto R, Ohtake Y, Kataoka Y, et al. Efficacy of acceptance and commitment therapy for people with type 2 diabetes: systematic review and meta-analysis. J Diabetes Investig. 2022;13(2):262-270. doi: 10.1111/jdi.13658.
19. Hill-Briggs F, Adler NE, Berkowitz SA, et al. Social determinants of health and diabetes: a scientific review. Diabetes Care. 2020;44(1):258-279. doi: 10.2337/dci20-0053.
20. Gore R, Brown A, Wong G, et al. Integrating community health workers into safety-net primary care for diabetes prevention: qualitative analysis of clinicians' perspectives. J Gen Intern Med. 2020;35(4):1199-1210. doi: 10.1007/s11606-019-05581-8.
21. Carter N, Corey M, O'Brien C, et al. UHCAN Ohio. Integrating Community Health Workers in Ohio's Health Care Teams. https://grc.osu.edu/news/CHWUHCANReport. Published August 2016. Accessed June 2022.
22. Agency for Healthcare Research and Quality (AHRQ). Pathways Community HUB Manual: A Guide to Identify and Address Risk Factors, Reduce Costs, and Improve Outcomes. https://www.ahrq.gov/sites/default/files/wysiwyg/innovations/CommunityHubManual.pdf. Published January 2016. Accessed June 2022.
23. American Diabetes Association. Standards of medical care in diabetes—2022 abridged for primary care providers. Clin Diabetes. 2022;40(1):10-38. doi: 10.2337/cd22-as01.
24. Beckman JA, Creager MA. Vascular complications of diabetes. Circ Res. 2016;118(11):1771-1785. doi: 10.1161/CIRCRESAHA.115.306884.
25. Hsu H, Lee Y, Wang R. Decision cycle for patient-centered glycemic management in type 2 diabetes. Hu Li Za Zhi. 2019;66(6):512. doi: 10.6224/JN.201912_66(6).02.ospitalization rates and charges: The Urban Diabetes Study. Diabetes Care. 2008;31(4):655-660. doi: 10.2337/dc07-1871.

Partners

In partnership with:

The Ohio Cardiovascular & Diabetes Health Collaborative is funded by the Ohio Department of Medicaid and administered by the Ohio Colleges of Medicine Government Resource Center. The views expressed in this document are solely those of the authors and do not represent the views of the state of Ohio or federal Medicaid programs.