

HealthPartners Care Coordination  
Clinical Care Planning and Resource Guide  
**DIABETES**

The following Evidence Base Guideline was used in developing this clinical care guide: National Institute of Health (NIH)

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**Documented Health Condition:** Diabetes

**What is Diabetes?**

Diabetes is a disorder characterized by hyperglycemia or elevated blood glucose (blood sugar). Diabetes is correctly divided into two major subgroups: Type 1 and Type 2 diabetes. This division is based upon whether the blood sugar problem is caused by **insulin deficiency (type 1)** or **insulin resistance (type 2)**. Insulin deficiency means there is not enough insulin being made by the pancreas due to a malfunction of their insulin producing cells. Insulin resistance occurs when there is plenty of insulin made by the pancreas (it is functioning normally and making plenty of insulin), but the cells of the body are resistant to its action which results in the blood sugar being too high.

**Common Causes of Diabetes**

**Type 1 diabetes** -is caused by a lack of insulin due to the destruction of insulin-producing beta cells in the pancreas. In type 1 diabetes—an autoimmune disease—the body’s immune system attacks and destroys the beta cells. Normally, the immune system protects the body from infection by identifying and destroying bacteria, viruses, and other potentially harmful foreign substances. But in autoimmune diseases, the immune system attacks the body’s own cells. In type 1 diabetes, beta cell destruction may take place over several years, but symptoms of the disease usually develop over a short period of time.

**Type 2 diabetes**—the most common form of diabetes—is caused by a combination of factors, including insulin resistance, a condition in which the body’s muscle, fat, and liver cells do not use insulin effectively. Type 2 diabetes develops when the body can no longer produce enough insulin to compensate for the impaired ability to use insulin. Symptoms of type 2 diabetes may develop gradually and can be subtle; some people with type 2 diabetes remain undiagnosed for years.

**Diagnosis & Clinical Indicators**

Any one of the following tests can be used for diagnosis:

- An **A1C** test, also called the hemoglobin A1c, HbA1c, or glycohemoglobin test –  
Normal: Less than 5.7%  
Pre-diabetes: 5.7% - 6.4%  
Diabetes: 6.5% or higher

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- A fasting **plasma glucose (FPG)** test- diabetes is diagnosed if it is higher than 126 mg/dL twice. Levels between 100 and 126 mg/dL are called impaired fasting glucose or pre-diabetes. These levels are risk factors for type 2 diabetes.
- An **oral glucose tolerance test (OGTT)** - diabetes is diagnosed if glucose level is higher than 200 mg/dL 2 hours after drinking a glucose drink. (This test is used more often for type 2 diabetes.)

Clinical Indicators: ABC treatment goals

- **A1C** ≤ 8% or per physician defined goal, at least every 6 months
- **BP** ≤ 140/90 or per physician defined goal, at least annually
- **Cholesterol** -lipid profile-LDL ≤ 100 or per physician defined goal, at least annually

Additional Clinical Monitoring and indicator: Blood Glucose (BG) goals individualized according to member's A1C goals and treatment plan. Standard ranges for BG per A1C below

**Table 1. Ranges of self-monitored blood glucose values for various A1c goals**

A1c Target	Average Mean Fasting Blood Glucose*	Average Mean Post-Prandial Blood Glucose
< 6%	< 100	< 140
7%	90-130	< 180
8%	120-160	< 210
9%	160-190	< 240

Motivational factors related to medication adherence:

Is careless with taking medications consistently or timely, is careless with refilling prescriptions consistently or timely

**Signs and Symptoms**

The signs of diabetes are:

- being very thirsty
- urinating often
- feeling very hungry or tired
- losing weight without trying
- having sores that heal slowly

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- having dry, itchy skin
- losing the feeling in your feet or having tingling in your feet
- having blurry eyesight

Because **type 2 diabetes** develops slowly, some people with high blood sugar have no symptoms. Symptoms of **type 1 diabetes** develop over a short period. People may be very sick by the time they are diagnosed.

**Treatment and Self-Care**

Good management of blood glucose (A1C) levels can reduce symptoms related to diabetes and reduce the risk of both acute and chronic complications. Additional interventions to control blood pressure and cholesterol levels, along with smoking cessation, can significantly lower risk for long-term diabetes complications. The health care team should work in partnership with the patient to determine an individualized diabetes management plan, discussing options, goals, and individualized targets linked to the plan. Factors such as life expectancy, risk of hypoglycemia and the presence of advanced diabetes complications, or other medical conditions need to be taken into account when deciding which target values are most appropriate for an individual.

**Self-Care**

- Healthy lifestyle: physical activity, healthy eating, nonuse of tobacco, weight management, effective coping
- Disease self-management: medication taking and management, self-monitoring of glucose and blood pressure when clinically appropriate
- Recognize the signs and symptoms of hypoglycemia and hyperglycemia and understand treatment plan.
- Prevention of diabetes complications: self-monitoring of foot health, active participation in screening for eye, foot, and renal complications, and immunizations

**Definition of Well-Managed**

No ER or inpatient admissions for exacerbation of diabetes symptoms or complications

Member has a physician recommended plan and follows it

Follows treatment plan for monitoring diabetes (ie. A1C, BP, blood glucose monitoring, medications, attending scheduled appts)

Follows through with contacting clinic when symptomatic (ie. can report signs/symptoms of hypoglycemia, hyperglycemia)

Follows diabetic dietary recommendations

General lack of symptoms as outlined above

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**Must Meet All Indicators for Well Managed Diabetes:**

- No ER or inpatient admissions for exacerbation of diabetes symptoms for last 12 months.
- BP control <140/90 or if 140/90 or >, is within physician recommended target
- A1C result < 8.0 = good control or if 8.0 or > , is within physician recommended target

Chronic Care Guideline Goal from <a href="#">MCG</a>	“As evidenced by” (AEB) example	Suggested care plan education from Coach & Communicate
<b>Goal: Better understanding of Diabetes diagnosis</b>	As evidenced by patient self-reporting understanding of diabetes diagnosis.	<a href="#">Diabetes [Learning Center]</a>
	As evidenced by patient self-reporting understanding of diabetes symptoms of concern and sick day plan.	<a href="#">Sick-day Guidelines for People with Diabetes</a>
	As evidenced by patient self-reporting comprehension of diabetes health education received.	
	As evidenced by patient self-reporting adherence to prescribed diabetic plan of care.	<a href="#">Diabetes Care Plan</a>
<b>Goal: develop, implement, and maintain a Diabetes self-management plan</b>	As evidenced by patient self-reporting how to check, evaluate, and respond to blood sugar readings.	<a href="#">Diabetes: Checking Your Blood Sugar</a>  <a href="#">Diabetes: Blood Sugar Levels</a>
	As evidenced by patient self-reporting understanding re: Hypoglycemia and hyperglycemia management	<a href="#">Diabetes-related High and Low Blood Sugar Levels</a>
	As evidenced by patient self-reporting medication purpose, use, effects, side effects, and considerations (such as timing before meals or exercise).	<a href="#">Diabetes: Insulin</a>  <a href="#">Non-insulin Medicines for Type 2</a>

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		<a href="#">Diabetes</a>
<b>Goal: better understanding of healthy diet</b>	As evidenced by patient self-reporting understanding healthy dietary choices per plan of care, how to read food labels and understanding goal BMI.	<a href="#">Diabetes: Tips for Healthy Eating</a>
<b>Goal: better understanding of potential Diabetes-related complications or comorbidities</b>	As evidenced by patient self-reporting having A1C monitored 2x a year	<a href="#">Diabetes: Your A1c Test</a>
	As evidenced by patient adhering to comorbid conditions management (such as coronary artery disease, high blood pressure, heart valve disease, and kidney disease)-specify	
	As evidenced by patient self-reporting dilated retinal exam annually	<a href="#">Diabetes: Eye Exams</a>
	As evidenced by patient self-reporting scheduling routine foot exams, performing daily inspection for injury, performing proper foot hygiene, protecting feet from injury, obtaining properly fitted footwear, and self-reporting need to seek prompt MD attention for breakdown.	<a href="#">Diabetes: Taking Care of Your Feet</a>