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Diabetes:
Identifying and Educating High-Risk Individuals

PODCAST 26

With Your HOST
DR. JANE CALDWELL

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Disclosures

Advisory board: Abbott

Diabetes Is A Societal Problem

About 1 in 10 people in the US live with diabetes[1]

roughly

37.3 Million

people

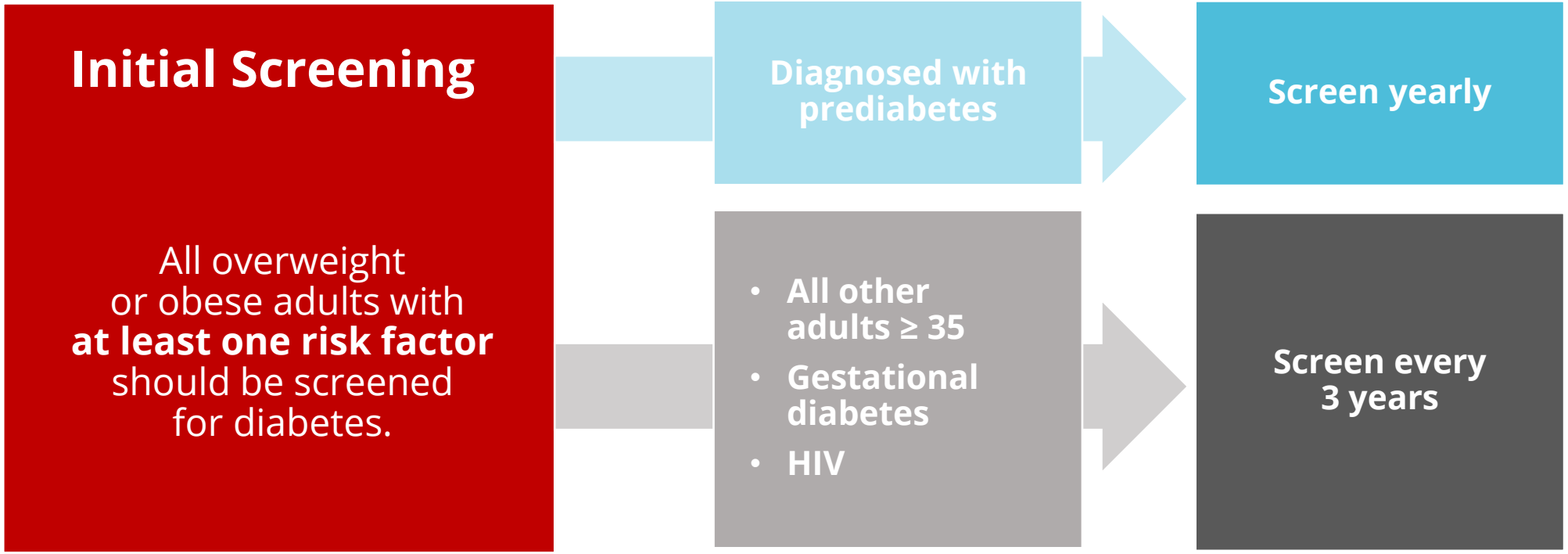
The prevalence of diabetes is impacted by factors such as[2]

Social and environmental conditions that shape people's daily experiences have a huge impact on whether people will develop diabetes and how it will be managed.[2]

Screening for diabetes in at-risk populations and in the community can help.[3,4]

1. Centers for Disease Control and Prevention. National Diabetes Statistics Report. www.cdc.gov/diabetes/data/statistics-report/index.html. Accessed August 15, 2022.
2. Hill-Briggs F, et al. *Diabetes Care.* 2021; 44:258-79.
3. Smith M, Rosenmoss S, Seligman K. *Prog Comm Health Partner.* 2020;14(3).
4. Kerkhoff AD, et al. *JAMA Network Open.* 2022;5(5):e2214163. doi:10.1001/jamanetworkopen.2022.14163

ADA Recommends Screening Asymptomatic Individuals for Diabetes



American Diabetes Association. *Diabetes Care.* 2022;45(Supplement_1):S17–S38.

ADA Risk Factors for Diabetes

Overweight or obese adults who have ≥ 1 of the following risk factors should be screened:
First degree relative with diabetes
High-risk race/ethnicity (e.g., African American, Latino, Native American, Asian American, Pacific Islander)
History of CVD
Hypertension (≥ 140/90 mmHg or on therapy for hypertension
HDL cholesterol level < 35 mg/dL (0.90 mmol/L) and/or a triglyceride level > 250 mg/dL (2.82 mmol/L)
Women with polycystic ovary syndrome
Physical inactivity
Other clinical conditions associated with insulin resistance (e.g., severe obesity, acanthosis nigricans)

American Diabetes Association. *Diabetes Care.* 2022;45(Supplement_1):S17–S38.

USPSTF Recommends Asymptomatic Screening Without Risk Factors

	Recommendation
What does the USPSTF recommend?	Adults aged 35 to 70 years who are overweight or obese: Screen for prediabetes and type 2 diabetes and offer or refer patients with prediabetes to effective preventive interventions.
To whom does this recommendation apply?	Non-pregnant adults aged 35 to 70 years who are overweight or obese and no symptoms of diabetes.
How to implement this recommendation?	1. Assess risk: • Obtain height and weight measurements to determine whether patient is overweight or obese. Overweight and obesity are defined as a BMI ≥ 25 and ≥ 30, respectively. 2. Screen: • If the patient is aged 35 to 70 years and is overweight or obese (BMI ≥ 25), consider screening at an earlier age if the patient is from a population with a disproportionately high prevalence of diabetes (American Indian/Alaska Native, Black, Hispanic/Latino, Native Hawaiian/Pacific Islander). Patients who are Asian American should be screened at a lower BMI (≥ 23). • Screening tests for prediabetes and type 2 diabetes include measurement of fasting plasma glucose or A1c level or an oral glucose tolerance test.
How often?	The optimal screening interval for adults with an initial normal glucose test result is uncertain. Screening every 3 years may be a reasonable approach for adults with normal blood glucose levels.

USPSTF Recommendation Statement. *J Am Med Assoc.* 2021;326(8):736-743. doi:10.1001/jama.2021.12531.

ADA Standard of Care Definitions

Prediabetes
Fasting plasma glucose 100 mg/dL (5.6 mmol/L) to 125 mg/dL (6.9 mmol/L) (IFG)
OR
2-h plasma glucose during 75-g OGTT 140 mg/dL (7.8 mmol/L) to 199 mg/dL (11.0 mmol/L) (IGT)
OR
A1c: 5.7 – 6.4% (39 – 47 mmol/mol)

Diabetes
Fasting plasma glucose ≥ 126 mg/dL (7.0 mmol/L)
OR
2-h plasma glucose ≥ 200 mg/dL (11.1 mmol/L) during OGTT
OR
A1c: ≥ 6.5% (48 mmol/mol NGSP certified assay)
OR
In a patient with classic symptoms of hyperglycemia or hyperglycemic crisis, a **random plasma glucose** ≥ 200 mg/dL (11.1 mmol/L)

IFG, impaired fasting glucose; IGT, impaired glucose tolerance; OGTT, oral glucose tolerance test

American Diabetes Association. *Diabetes Care.* 2022;45(Supplement_1):S17–S38.

Undiagnosed and Uncontrolled Diabetes Poses a Threat to Patients

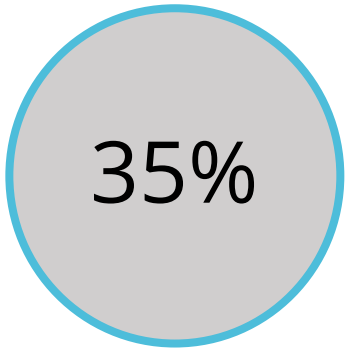
Cardiovascular Disease

Occurs in

of people with diabetes

Diabetic Eye Disease

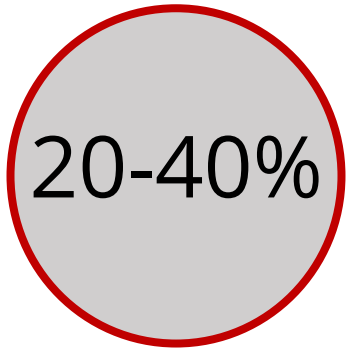
Occurs in



of people with diabetes

Chronic Kidney Disease

Occurs in



of people with diabetes

Peripheral Neuropathy

Occurs in

of people with diabetes

Diabetes increases the risks of microvascular and macrovascular complications.[1]

A **1% reduction** in A1C leads to a **30% reduction** in microvascular complications.[2]

1. Gabbay RA, et al. *Clin Diabetes*. 2020;38(4):371-381.
2. Crocker JB, et al. *J Diab Sci Tech.* 2021;15(3):561-67.

Screening With POC A1c Identifies More Cases of Prediabetes and Diabetes

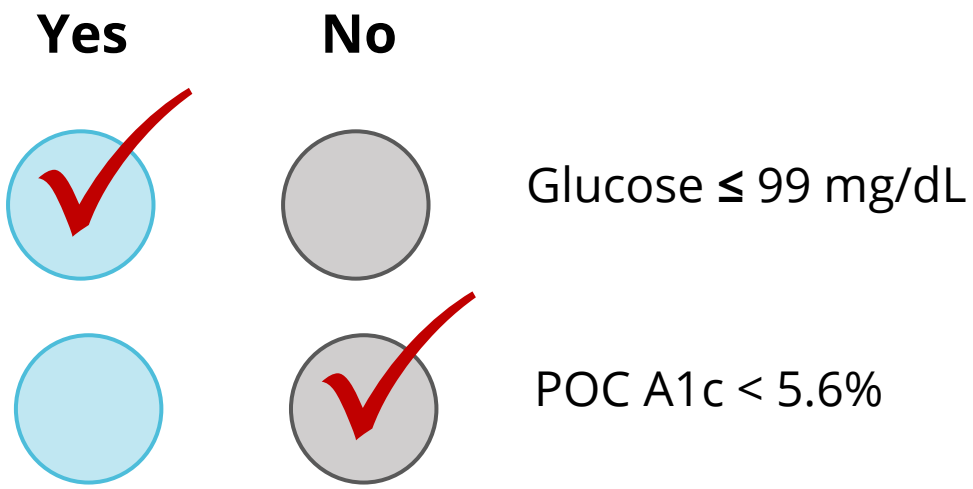
Screening Outcome	Screening Practice*	
	Active Screening with POC A1c, N (%)	Standard Practice, N (%)
Diabetes	16 (10)	6 (8)
Prediabetes	88 (53)	24 (33)
Euglycemic	60 (37)	43 (59)

* $P = 0.005$

Systematically offered POC A1c tests increase the likelihood of getting screened (100% vs. only 23% of eligible people in standard practice arm)

Whitley HP, Hanson C, Parton JM. *Ann Fam Med*. 2017;15(2):162–64.

A1c POC Tests Identify More Chronic Hyperglycemic Patients Than Blood Glucose Tests



POC A1c tests **increase** the chance for diabetes screening to occur when compared to standard practice.

More screening may lead to more identification and less patients living with undiagnosed uncontrolled diabetes.

Whitley HP, Hanson C, Parton JM. *Ann Fam Med.* 2017;15:162-64.

POC A1c Testing Reduces Patient Visits and Healthcare Costs

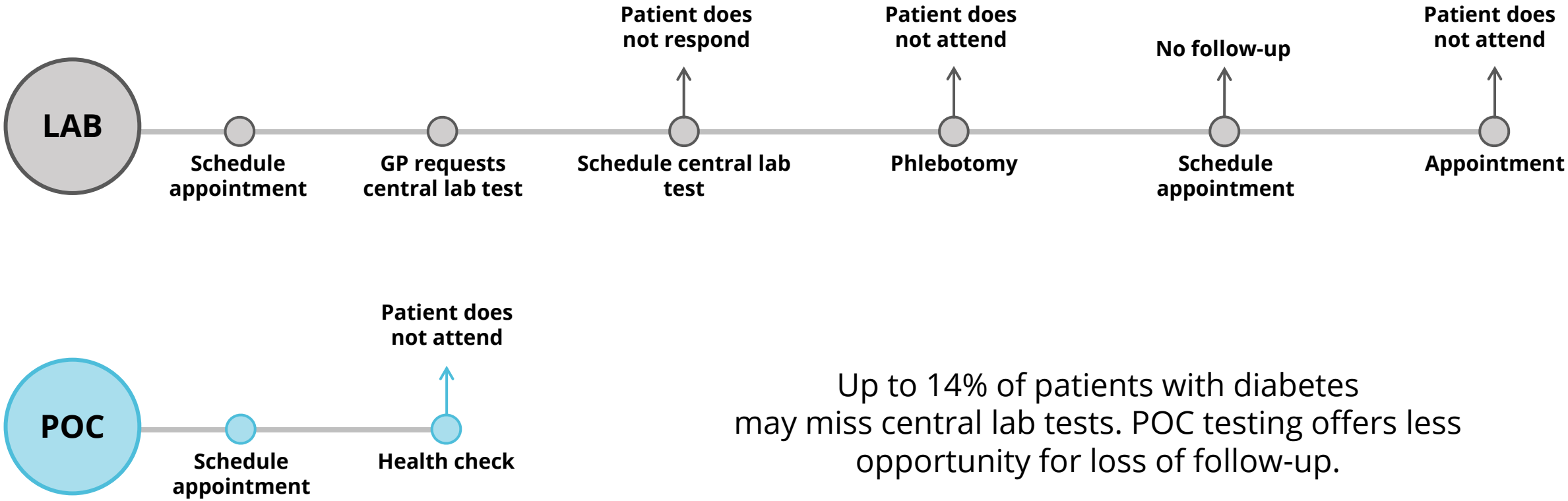
61% reduction

in patient revisits have been reported with A1c POC testing

POC A1c testing may contribute to a substantial reduction in annual diabetes care costs for patients.

Schnell O, Crocker B, Weng J. *J Diabetes Sci Technol*. 2016;11(3):611-17.

POC Tests Lead to More Patients Receiving Tests and Results



Up to 14% of patients with diabetes may miss central lab tests. POC testing offers less opportunity for loss of follow-up.

El-Osta A, et al. *BMJ Open.* 2017;7:e015494.
Moffet HH, et al. *Am J Manag Care*. 2011;17(5):339-44.

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