3.c.i. EVIDENCE-BASED STRATEGIES FOR DISEASE MANAGEMENT IN HIGH-RISK/AFFECTED POPULATIONS: DIABETES (ADULTS ONLY)

PROJECT GOALS AND RECOMMENDATIONS

▸ Based on the *ADA Standards of Medical Care in Diabetes – 2016,*[1] screen all adults, regardless of weight, every three years with a fasting glucose or hemoglobin A1c[2] (Hgb A1c) beginning at age 45 years. Screen asymptomatic adults of any age who are overweight or obese (BMI≥25 kg/m^{2}) if they have one or more additional risk factors for diabetes, such as hypertension, gestational diabetes, polycystic ovary syndrome, physical inactivity, or a family history of diabetes.

▸ Screen adults with a BMI≥ 23 kg/m^{2} at least every three years if they have a Hispanic or Chinese-American background (Evidence Grade B).[3]

▸ Perform annual monitoring of those with prediabetes.

▸ For those with HIV, screen for diabetes and prediabetes with a fasting glucose level before starting antiretroviral therapy and every three months after starting or changing therapy. Continue to measure levels every three-to-six months to monitor for progression to diabetes (Evidence Grade E- expert consensus).

▸ Refer patients with abnormal blood glucose (with prediabetes[4] and diabetes)[5] for intensive and culturally competent behavioral counseling interventions to promote a DASH diet, weight loss or control, smoking cessation, and physical activity.

▸ Risk-stratify diabetic individuals for more intensive care management for patients with:

» Fewer than two PCP visits/year;

» Fewer than two Hgb A1c determinations/year;

» A Hgb A1c (>9 %);[6]

» A BP ≥ 140 systolic or ≥ 90 diastolic;

» No statin prescriptions;

» Diabetic nephropathy (microalbuminuria) or hypertension who are not on ACE inhibitors, angiotensin II receptor blockers, or direct renin inhibitors;

» Diabetic retinopathy without an eye professional visit in the past 12 months;

» Use of tobacco products, and

» Arteriosclerotic cardiovascular, peripheral micro- and macro-vascular disease, or cerebrovascular disease or non-adherent to podiatry referralor are not taking aspirin or antiplatelet therapy.

▸ Screen for food, housing, health literacy, and financial insecurity (Evidence Grade A)[7] for all patients whose diabetes is not under control within six months to identify adherence barriers.

▸ Identify cultural and behavioral factors that may be contributing to adherence issues and inadequate control of diabetes

▸ Encourage referrals by PCPs to diabetic specialists or centers of excellence for those individuals who are unable to maintain adequate management of the above risk factors for complications.

▸ Provide all PCPs with 2016 ADA Standards of Care[8] and develop incentive programs based on these.

▸ Train staff and implement the Stanford Diabetes Self-Management Program[9] to serve all high-risk patients, including those from the Latino[10] and Chinese[11] communities, with programs specifically designed for them.

▸ Empower patients with diabetes to achieve successful self-management practices. Decrease rates of diabetes-related complications. Improve Hgb A1c and LDL cholesterol measures.

▸ Provide the annual screening for depression in all individuals with diabetes.

▸ Provide annual influenza vaccination.

MAY 2017

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OVERVIEW

Approximately one-quarter of people with diabetes in the U.S. and nearly half of Asian and Hispanic Americans with diabetes are undiagnosed.[12] Researchers have long known that people of Hispanic /Latino background are at higher risk for Type 2 diabetes than non-Hispanic Caucasians.[13] The Hispanic Community Health Study/Study of Latinos (HCHS/SOL) was launched by the National Heart, Lung and Blood Institute in part to fill in knowledge gaps regarding the prevalence and development of chronic diseases, such as diabetes, among the diverse members of these populations. It found considerable diversity among Hispanic/Latino groups when it comes to the prevalence of diabetes, as well as a low rate of diabetes awareness, diabetes control and health insurance.

When looking at Hispanic/Latino groups individually, the study found that the prevalence varied from a high of 18.3% for those of Mexican descent to a low of 10.2% for people of South American descent. The study found Type 2 diabetes in 18.1% of people of Dominican and Puerto Rican descent; 17.7% of Central American descent; and 13.4% of Cuban descent living in the United States.

As seen in other populations, prevalence rose dramatically with age, reaching more than 50% for Hispanic/Latino women (overall) by the time they reached age 70. The study also found that the longer persons lived in the United States, the more likely they were to develop diabetes, and the more education and income they had, the less likely they were to develop diabetes. In addition, Hispanics/Latinos with diabetes have a high potential future risk of developing complications due to relatively poor glycemic control and diabetes management.[14]

China has the largest number of people with diabetes of any country in the world, and the disease has reached epidemic proportions in the adult population. Latest estimates indicate that around half of Chinese adults have prediabetes, putting them at high risk of diabetes and multiple related illnesses.[15] A high prevalence of Type 2 diabetes in the Chinese American community has also been found. The lower rate of obesity among Chinese Americans does not result in a lower rate of diabetes and prediabetes.[16] Screening for diabetes should be considered in Chinese-American adults with a BMI ≥ 23kg/m^2 instead of 25kg/m^2.

PROJECT POPULATION TARGET

All adults in the population who meet the above screening criteria and who have prediabetes or diabetes.

PATIENT ENGAGEMENT GOALS

All members with diabetes or prediabetes with at least one Hgb A1c test in the past 12 months.

ACTION PLANS

ACP will apply the six core elements of the Chronic Care Model to improve the care of patients with diabetes. These elements include:

1. Delivery system design (moving from a reactive to a proactive care delivery system where planned visits are coordinated through a team-based approach);
2. Self-management support;
3. Decision support (basing care on evidence-based, effective care guidelines);
4. Clinical information systems (using registries that can provide patient-specific and population-based support to the care team);
5. Community resources and policies (identifying or developing resources to support healthy lifestyles);
6. Health systems (to create a quality-oriented culture).

ACP will apply criteria for testing for diabetes or prediabetes in asymptomatic adults.[17]

1. Testing all adults who are overweight (BMI ≥25 kg/m^2 or ≥23 kg/m^2 in Asian Americans and Latino-Americans) and have additional risk factors:

» Physical inactivity;

» First-degree relative with diabetes;

» High-risk race/ethnicity (e.g., African American, Native American, Asian American, Latino-Americans, Pacific Islander);

» Women who delivered a baby weighing >9 lbs. or were diagnosed with gestational diabetes (GDM);

» 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 (2.8 mmol/L);

MAY 2017

» Women with polycystic ovary syndrome;

» Hgb A1c ≥5.7%, impaired glucose tolerance (IGT), or impaired fasting glucose (IFG) on previous testing;

» Other clinical conditions associated with insulin resistance (e.g., severe obesity, acanthosis nigricans);

» History of cardiovascular disease.

2. For all patients, particularly those who are over-weight or obese, testing should begin at age 45 years.

3. If results are normal, testing should be repeated at a minimum of three-year intervals, with consideration of more frequent testing depending on initial results (e.g., those with prediabetes should be tested yearly) and risk status.

ACP will provide ADA criteria for diabetes and prediabetes to all PCPs.

ACP will provide tools from the National Diabetes Education Program to assist practices in meeting clinical benchmarks for the disease.[18]

PERFORMANCE METRICS

The following are nationally accepted evidence-based quality indicators developed by the National Committee for Quality Assurance (NCQA) and adopted by the NYSDOH and ACP:

▸ Comprehensive Diabetes Care – Hgb A1c showing Poor Control (>9.0%) – The number of people age 18 to 75 with diabetes whose most recent Hgb A1c indicated poor control, was missing or did not have a Hgb A1c.

▸ Comprehensive Diabetes Screening – All three tests (Hgb A1c, dilated eye exam, nephropathy monitoring) – The number of people, age 18 to 75, with diabetes who received at least one of each of the following tests during the measurement year; Hgb A1c test, diabetes eye exam, and nephropathy monitoring.

▸ Flu Shots for Adults Age 18-64 (CAHPS Survey) – The number of respondents, age 18 to 64, who have had a flu shot.

▸ Health Literacy (CAHPS Survey – QHL13, 14, and 16) – The number of respondents who answered that they saw their provider for an illness or condition and were given instructions that were "usually" or "always" easy to understand, described how the instruction would be followed and were told what to do if the illness/condition got worse or came back.

▸ Medical Assistance with Smoking and Tobacco Use Cessation (CAHPS Survey) – Advised to Quit – The number of respondents, age 18 and older, who smoke or use tobacco some days or every day and were advised to quit.

▸ Medical Assistance with Smoking and Tobacco Use Cessation (CAHPS Survey) – Discussed Cessation Medication – The number of respondents, age 18 and older, who smoke or use tobacco and discussed or were recommended cessation medication.

▸ Medication Assistance with Smoking and Tobacco Use Cessation (CAHPS Survey) – Discussed Cessation Strategies – The number of respondents, age 18 and older, who smoke or use tobacco some days or every day and discussed or were provided with cessation methods or strategies.

▸ Prevention Quality Indicator #1 (Diabetes Short-term complication) – The number of people, age 18 and older, excluding maternity cases, discharged with a principal diagnosis of diabetes with short-term complications (ketoacidosis, hyperosmolarity, or coma).

/REFERENCES

[1] Standards of Medical Care in Diabetes – 2016. http://care.diabetesjournals.org/content/39/Supplement_1/S4

[2] 2-hour plasma glucose after a 75-gram oral glucose tolerance test is an alternative and does detect more people with diabetes. However, the ADA states that no one test is preferred over another for diagnosis

[3] The United States Preventive Medicine Task Force (USPSTF) recommends the service. There is high certainty that the net benefit is moderate or there is moderate certainty that the net benefit is moderate to substantial.

[4] "Prediabetes" is the term used for individuals with impaired fasting glucose (IFG) and/or impaired glucose tolerance (IGT) and indicates an increased risk for the future development of diabetes. It is diagnosed by: FPG 100 mg/dL (5.6 mmol/L) to 125 mg/dL (6.9 mmol/L) (IFG) OR 2-h PG in the 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% (39–46 mmol/mol) (see reference 1)

[5] Diabetes criteria: FPG ≥126 mg/dL (7.0 mmol/L). Fasting is defined as no caloric intake for at least 8 h OR 2-h PG ≥200 mg/dL (11.1 mmol/L) during an OGTT. The test should be performed as described by the WHO, using a glucose load containing the equivalent of 75 g anhydrous glucose dissolved in water. OR A1C ≥ 6.5% (48 mmol/mol). The test should be performed in a laboratory using a method that is NGSP certified and standardized to the DCCT assay. OR In a patient with classic symptoms of hyperglycemia or hyperglycemic crisis, a random plasma glucose ≥200 mg/dL (11.1 mmol/L). (see reference 1)

[6] http://www.hrsa.gov/quality/toolbox/measures/diabetes/

[7] The USPSTF recommends the service. There is high certainty that the net benefit is substantial.

[8] http://care.diabetesjournals.org/content/39/Supplement_1/S4

[9] http://patienteducation.stanford.edu/programs/diabeteseng.html

[10] http://patienteducation.stanford.edu/programs_spanish/tomando.html.

[11] For Chinese version of training materials, contact Peter Poon (peter.poon@rehabsociety.org.hk)

[12] Menke A, Casagrande S, Geiss L, Cowie CC. Prevalence of and trends in diabetes among adults in the United States, 1988-2012. JAMA 2015;314:1021–1029

[13] http://www.diabetes.org/newsroom/press-releases/2014/diabetes-among-hispanics-all-are-not-equal.html

[14] Schneiderman N, Llabre M, Cowie CC, et al. Prevalence of diabetes among Hispanics/Latinos from diverse backgrounds: The Hispanic community health study/study of Latinos (HCHS/SOL). Diabetes Care 2014 Aug; 37 (8): 2233-2239

[15] http://www.asianscientist.com/2014/09/health/chinas-worrying-diabetes-epidemic/

[16] Stewart SL, Dang J, Chen MS Jr. Diabetes Prevalence and Risk Factors in Four Asian American Communities. J Community Health. 2016 Jun 23.

[17] Table 2.2, http://care.diabetesjournals.org/content/38/Supplement_1/S8.figures-only

[18] https://www.niddk.nih.gov/health-information/health-communication-programs/ndep/Pages/index.aspx

MAY 2017

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