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Evaluating Implementation of Diabetes Screening In Family Practice

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EVALUATING IMPLEMENTATION OF DIABETES SCREENING IN FAMILY PRACTICE

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DIABETES SCREENING IN PRIMARY CARE

- **1.3 million** Ohioans are estimated to have prediabetes but have not been diagnosed (Ohio Department of Health, 2018).
- **8th** leading cause of death in Ohio (Ohio Department of Health, 2018).
- **\$15.8** billion spent annually in Ohio on diabetes cost (Ohio Department of Health, 2018).
- Diabetes causes **serious comorbidities** including renal disease, retinopathy, cardiovascular disease, liver disease, and obstructive sleep apnea (Tomic et al., 2022).

GOALS OF RESEARCH

- The goals of this project are to
- **Identify** standards of care in diabetes screening.
 - **Assess** if the standard of care was implemented in a local community family care practice.
 - **Educate** advanced practice nurses about implementing secondary prevention and opportunities for growth in local diabetic care.

RESEARCH METHODS

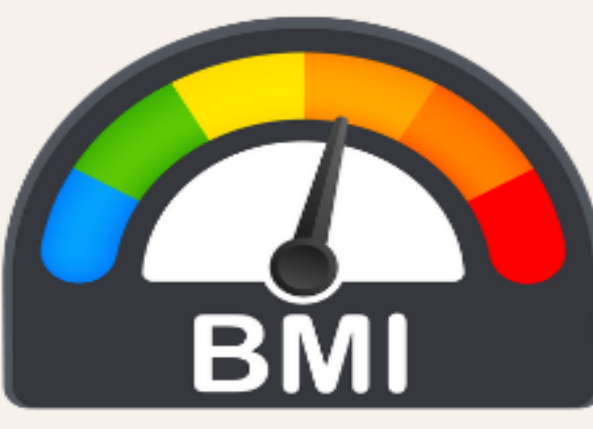
- A retrospective chart review (RCR) was conducted in a rural family practice clinic in northeastern Ohio.
- Chart selection inclusion criteria**
- Asymptomatic, nonpregnant adult patients aged 35-70 years of age, with a BMI over 25, that were seen for wellness visits between September 1 – September 30, 2022.
- Chart selection exclusion criteria**
- Pediatrics, adults ≤ age 34 and ≥ 71, pregnant adults, adults diagnosed with diabetes, patients symptomatic for diabetes between September 1 – September 30, 2022.
- Standards utilized**
- The USPSTF guidelines were utilized as the standard of care for diabetic screening guidelines.

CURRENT STANDARDS OF CARE

Current standards of screening are set by the U.S. Preventive Services Task Force and the American Diabetes Association.



AGE
Adults aged 35 to 70 years (Davidson et al., 2021).



POPULATION
Adults who are overweight or have obesity as determined by BMI (≥ 25 and ≥ 30) (Davidson et al., 2021).



TIMING
Testing should be performed every three years (Davidson et al., 2021).



TESTING MODALITIES
Screening may be performed through A1C, fasting plasma glucose, or glucose tolerance test (Davidson et al., 2021).



RISK FACTORS
Patients who have one or more of the following risk factors: cardiovascular disease, hypertension, obesity, family history of diabetes, or high-risk ethnicity (American Diabetes Association, 2021).

The **U.S. Preventive Services Task** recommendation was given a “B” rating, indicating this intervention is demonstrated to have a moderate benefit (Davidson et al., 2021).

American Diabetes Association recommendation was given a level A and B of evidence, which indicates data is gathered from meta-analysis and case-controlled studies (American Diabetes Association, 2021).

SUPPORTIVE EVIDENCE-BASED PRACTICE

Benefit of offering screening to asymptomatic patients

The supporting systematic review in creating USPSTF guidelines found that providing interventions to overweight patients was **associated with reduced incidence of diabetes** (Jonas et al., 2021). For recently diagnosed and overweight patients, screening and offering benefits improved patient outcomes (Zhou et al., 2020).

Benefit of screening ages 35-70

According to a systematic review, providing screening at this targeted age group provides early intervention, which **reduces the burden of costs associated with diabetes care** (Zhou et al., 2020).

Utilizing BMI as a screening criteria

According to a systematic review, a **BMI between ≥ 25 and ≥ 30 is the strongest risk factor for developing diabetes** (Zheng et al., 2017). BMI is a reliable screening tool to utilize to identify patients with increased risks of developing diabetes.

Selecting the appropriate tests to screen for diabetes

According to the **standards set by the American Diabetes Association**, screening for diabetes should be performed by either an A1C, fasting glucose, or glucose tolerance test (American Diabetes Association, 2020).

Benefit of offering interventions at screening

According to a meta-analysis, **offering interventions aimed at weight reduction** to asymptomatic patients at risk for acquiring diabetes is associated with weight reduction and decreased overall risk of later acquiring diabetes and decreases the disease progression of prediabetes (Galaviz et al., 2018).

FINDINGS

Does the patient population meet criteria for diabetes screening?

- **50 patients** met screening criteria in September 2022.

Are patients receiving appropriate diabetes screening?

- **43 out of 50 patients** received appropriate diabetes screening.
- **7 out of 50 patients** met screening criteria but were not offered screening.

Did the patients receive the appropriate tests to screen for diabetes?

- **42 patients** received fasting glucose testing.
- **1 patient** received A1C testing.

Were patients diagnosed with prediabetes or diabetes after screening?

- **47 out of 50 patients** did not meet criteria to be diagnosed with diabetes.
- **3 out of 50 patients** met criteria to diagnose with type II diabetes but failed to be diagnosed after screening.

Were preventative interventions offered along with screening?

- **47 out of 50 patients** received appropriate preventative interventions such as diet, physical activity, and/or metformin at their time of screening.
- **3 out of 50 patients** met criteria for prevention but did not receive preventative interventions at their visit.

REFERENCES



IMPLICATIONS FOR ADVANCED PRACTICE NURSES



All primary care providers should understand the screening recommendations, implement screening in their practice, and offer interventions to reduce patient risk of developing chronic disease.

01.

IDENTIFY YOUR PATIENT POPULATION

Many patients in primary care meet diabetic screening criteria based on age, BMI, and risk factors.

02.

IMPLEMENT APPROPRIATE SCREENING

Integrate screening for diabetes into eligible patients' annual visit.



03.

OFFER EARLY INTERVENTIONS

Offer interventions aimed at weight reduction. Educate patients on lifestyle changes including healthy eating and exercise.



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