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Barriers for Achieving Glycemic Targets

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Improved glycemic control in people with diabetes delays the onset and progression of severe microvascular complications of diabetes. Despite advances in pharmacotherapy and diabetes treatment devices and the emphasis placed on treatment adherence over the last decade, National Health and Nutrition Examination Survey (NHANES) data showed 45% of patients with diabetes did not achieve glycemic targets of <7%. Although some patients with diabetes may be undertreated (e.g., inappropriate treatment regimens, psychosocial issues that require adjustment in therapeutic targets), one reason for poor glycemic control is patients' difficulty in following treatment prescriptions and recommendations for diabetes self-care.

The clinical consequences of not reaching clinical goals include faster disease progression, increased risk of microvascular and macrovascular complications, reduced quality of life (QOL), and premature mortality. Economic consequences include increased emergency department (ED) and hospital utilization, which account for the majority of observed excess costs.

The number of diabetes medications prescribed and the number of people using diabetes medications have increased exponentially as a result of increasing prevalence rates in type 2 diabetes. In order to continue to improve diabetes care and A1C levels, we must understand both providers' barriers to prescribing diabetes therapy and patients' barriers to taking diabetes medication as prescribed.

On the call:

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Glycemic targets/protocols/algorithms use

A set of guidance statements recently published by the American College of Physicians (ACP) advocates relaxation of goals for control of glycated hemoglobin (A1C) by people with type 2 diabetes (T2D). This publication advises that “clinicians should reevaluate HbA1c levels and revise treatment strategies on the basis of changes in the balance of benefits and harms.” Specifically, it proposes reducing pharmacotherapy for any person when A1C is, 6.5%, seeking a level between 7 and 8% for “most patients,” and aiming only to minimize symptoms without any specific A1C goal for those over age 80 years or with chronic medical conditions likely to limit life expectancy.

El Rio Health Center uses a software called “relevant” to be able to look at provider level data and identify specific patients by location. El Rio uses A1C < 9 as its quality improvement measure, but on individual level, they recommend A1c levels < 7; so, it depends on age and preexisting comorbidities.

El Rio uses the same approach for newly diagnosed patients and if the patients are young and they don't have comorbidities then El Rio is more aggressive in terms of degree of control.

Med Centro uses A1c < 7 if the patients are 75 and younger, and A1c < 8 if they are 75 and older.

Patient self-monitoring of blood glucose (SMBG)

Self-monitoring of blood glucose (SMBG) is an important component of modern therapy for diabetes mellitus. SMBG has been recommended for people with diabetes and their health care professionals in order to achieve a specific level of glycemic control and to prevent hypoglycemia. All health centers recommended SMBG because:

- ✓ It is easily accessible,
- ✓ Help clinical pharmacy team educates the patients,
- ✓ And give the opportunity to providers to offer feedback

Care Management Approach

A team approach to diabetes care can effectively help people cope with the vast array of complications that can arise from diabetes. People with diabetes can lower their risk for microvascular complications, such as eye disease and kidney disease; macrovascular complications, such as heart disease and stroke; and other diabetes complications, such as nerve damage.

Med Centro mentioned that when patients are diagnosed with uncontrolled diabetes, they refer them to the diabetes care team to help them reach their glycemic targets goal.

El Rio Health Center has a Quality Assurance Director who maintains a report of all patients with uncontrolled diabetes; the QA Director makes sure clinicians assess these high-risk patients.

Tri-City Health Center has a different approach. They recently launched a diabetes wellness boot camp, which include: behavioral health providers, nutritionist and case managers. Every Saturday, the providers identify patients who can benefit from these programs. In each wellness class, patients discuss various topics to improve their diabetes.

32% of diabetics receiving care from health centers located in or immediately accessible to public housing developments have A1c>9.

A1c Testing Recommendations

A1c reflects average glycemia over approximately 3 months and has strong predictive value for diabetes complications. A1C testing should be performed routinely in all patients with diabetes—at initial assessment and as part of continuing care. Measurement approximately every 3 months determines whether patients' glycemic targets have been reached and maintained. Participant Health Centers highlighted that they follow ADA guidelines when they test patients with uncontrolled diabetes.

- ✓ **El Rio Health Center** - No more than three months
- ✓ **Med Centro** - Every 3 months if its uncontrolled and every 4 months if its controlled

Barriers to Successful Management of Diabetes

Health Centers are facing similar barriers to successfully manage diabetes. Health Centers mentioned treatment nonadherence, Clinical limitations, and cultural, socioeconomic and behavioral factors. According to El Rio Health Center, there are numerous factors affecting their diabetic patients. When patients are on insulin, patients' lifestyle plays an important role. For instance, some patients work night shifts, so they have conflict with the insulin schedule. El Rio is also facing a huge barrier: health literacy and cultural barriers. Some patients do not follow instructions due to limited health literacy, or cultural barriers such as traditional (folk) medicine.

Electronic Health Records is used as a leverage to further improve diabetes-related outcomes for diabetic patients with uncontrolled diabetes .

Socioeconomical Limitations

Med Centro noted that the eating habits and poverty are barriers among uncontrolled diabetes patients because the poverty level is high, so their patients cannot afford healthy food. Also, Med Centro has a huge percentage of elderly patients, and the elderly patients do not have relatives or close friends to help them with the insulin administration at home because the younger people are leaving Puerto Rico due to an economic crisis. Some patients at Med Centro do not understand the use of medications. Therefore, health literacy is also a barrier that Med Centro is facing.

So, a strategy that helps Med Centro with health literacy is changing the language of their EHR system to Spanish.

Tri-City Health Center has a dedicated health awareness program. Their providers identify patients who need help with diabetes management; specially, those with diabetic eye conditions. They provide diabetes counseling and their case managers educate patients. Tri-City also has a Transportation barrier. They also face language barriers with their Spanish speaking patients.

Tri-City provides a boot camp, where they help providers as well as patients with diabetes management (They offer CEU courses to physicians and diabetes management classes to patients).

Clinical Limitations

El Rio Health Center mentioned that some medications are not approved by insurance companies. Insurance providers may not cover some medications, so the providers at El Rio have to rewrite the prescription.

Unlike El Rio, Med Centro does not have any clinical limitations because most of the insulin medications are covered by the insurance and 88% of the patients are on Medicaid. So, when Med Centro renew their contract, they are provided with a list of medications that are covered, and their physicians are limited to that specific list.

Continuing Education Limitations

Tri-City Health center is not facing any continuing education limitation among their physicians. On the contrary, Tri-City is experiencing an increase in the number of participants in their diabetes classes as well as the boot camp.

Health Centers mentioned the need to stay abreast with new guidelines and recommendations. They make sure clinicians are up-to-date with the most current diabetes guidelines and recommendations.

Resources:

[CDC National Diabetes Prevention Program](#)

[American Association for Diabetes Educators](#)

[American Association of Clinical Endocrinologists](#)



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