

“A Program for Diabetes Care Management in College Health”

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While the standards of care for treating and managing prediabetes and type 2 diabetes are well established, there are challenges to providing consistent, effective care at a population level.

PROBLEM

“...a major barrier to optimal care is a delivery system that is often fragmented, lacks clinical information capabilities, duplicates services, and is poorly designed for the coordinated delivery of chronic care.”*

RECOMMENDATION

“Delivery system design (moving from a reactive to a proactive care delivery system where planned visits are coordinated through a team-based approach)”*

*American Diabetes Association 2023 Standards of Care of Diabetes (https://diabetesjournals.org/care/issue/46/Supplement_1)

Background: In 2022, we determined that there were over 300 students we had seen at the health center in the past year who met the criteria for either pre-diabetes or type 2 diabetes. After several inservices on the management of prediabetes and type 2 diabetes, we performed a chart review of management of patients with prediabetes or type 2 diabetes seen in our Primary Care clinic (50 charts selected from Aug 2022 - Feb 2023).

Results:

- Follow-up visits 79%
- Repeat HbA1C: 61%
- Lipid Panel 78%
- Discussion of lifestyle modification 72%
- Nutritionist consult recommended 55%

Patients with Type 2 Diabetes (16 charts)

- Annual Eye Exams 6/16 = 37.5% recommended an optometry exam.
- Microalbuminuria testing 8/16 = 50% of charts documented.
- Vaccination recommendations? 7/16 = 43.75% documented recommending staying up to date with vaccinations.
- Documenting all recommendations: 3/16 = 18.75%.
- No documentation of additional recommendations: 5/16 charts (31.25%)

Observation: There is a significant prevalence of prediabetes and type 2 diabetes in our young adult community (total student population approximately 44,000).

Many of the effects of these conditions do not cause symptoms at early stages. College/university students may not feel motivated to address these conditions, which may impact their longterm health but are not currently causing symptoms. The consequences of delaying interventions can manifest years later and can have substantial impact on quality of life. We postulated that there can be a role for a college health center to organize a program that will better support these students and provide more consistent, proactive and multidisciplinary care in managing and educating around prediabetes and type 2 diabetes. Engaging at an early stage of these conditions can be powerful in mitigating or preventing both short and long term adverse health consequences.

NEXT STEPS: Creation of a Care Management Program for Students with Prediabetes or Type 2 Diabetes. Key components:

1. Solicit volunteers for a Diabetes Care Management Team.
2. Assign two medical assistants as care coordinators.
3. Assign participating patients to a Primary Care provider. Care managers will schedule appointments and use reminders to arrange follow-up every 3-6 months (for prediabetes) or every 3 months (for type 2 diabetes).
4. Develop a tracking system in the EMR to track standard indicators for the management of these conditions.
5. Partner with Nutritionists, Health Coaches (around exercise), Optometry and Behavioral Health Providers to support lifestyle modifications, stress management, balancing lifestyle changes with academic and other priorities, and planning for maintaining a healthy lifestyle after graduation from the program.
6. Periodic meetings of the Team, including specialist partners to maintain active communication about the program.
7. Create patient education handouts on prediabetes and type 2 diabetes, including regarding steps and resources around nutrition and exercise.

Tracking fields for Diabetes Care Management.

Tracking alerts set as due every 1 year (HbA1C set to 3 months).

- Blood pressure
- Lipid panel
- Creatinine
- Urine Microalbumin (type 2 DM)
- Exercise Counseling Provided
- Eye Exam (type 2 DM)
- Foot Exam (type 2 DM)
- HbA1C
- Nutrition Consultation
- Pneumococcal vaccine (PCV20) (type 2 DM)
- Annual Flu vaccine

Most indicators autopopulate in the EMR. Providers maintain keeping fields up to date at the time of follow-up visits.

The program launched October 20, 2023.

Messages sent to 316 students based on prior diagnosis of pre-diabetes or type 2 diabetes.

As of March 2024, there were 29 students who joined the program with 5 participating Primary Care providers.

Subsequent referrals to the program were made from within the practice.

By November 2024, there were 62 participants, with 9 participating Primary Care providers.

INITIAL FOLLOW-UP

March 2024, (21 unique patients total* - 14 prediabetes and 7 type 2 diabetes. Students who had had their initial visit with the program, Oct 2023 - March 2024.)

% documentation

Blood pressure: 100%
HbA1C within 6 months: 100%
Urine testing: 100% for participants with type 2 diabetes
Annual cholesterol: 100%
Nutrition consultation discussed: 79% (prediabetes) and 57% (type 2 diabetes)
Annual eye exam performed or recommended: 43% (type 2 diabetes)
Annual foot exam documented: 86% (type 2 diabetes)
Exercise counseling: 79% (pre-diabetes) and 56% (type 2 diabetes)
Vaccination documentation (recommended and/or documented):
type 2 diabetes → 88% flu vaccine given, 37.5% pneumococcal vaccine given and 87.5% combined given and/or discussed/recommended.

Second Follow-up

March 2025 (41 active participants Aug-Oct 2024)

% documentation

Blood pressure: 100%
HbA1C within 6 months: 93%
Annual Lipid Screening: 88%
Nutrition recommendations: 100%
Exercise recommendations: 100%
Flu vaccine recommendations; 93%
Annual eye exam performed or recommended (type 2 diabetes): 62%
Annual foot exam documented (type 2 diabetes) : 50%
Flu vaccine given (type 2 diabetes); 68%
Pneumococcal vaccine given (type 2 diabetes): 44%

Additional one year follow-up

What is the impact on disease?

- In March 2025, we looked back at HbA1C as a marker of disease for 48 students who had been actively enrolled thru October 2024*
- Decrease in HbA1C:
 - 0.1 decrease (19/48=40%)
 - 0.2 decrease (14/48 = 29%)
 - 0.3 decrease (11/48=23%)
 - 0.4 decrease (8/48 = 17%)
- Note 9/48 = 19% showed a slight increase in HbA1C.

CONCLUSIONS: It is possible to implement a program to manage prediabetes and type 2 diabetes in a college health setting that can provide a more consistent standard of care via a proactive, multidisciplinary approach. We observed the most significant improvement in providing regular follow-up appointments with the same provider; coordinating a team of multidisciplinary services; and improving consistency around recommendations. While we are demonstrating significant improvement in our management, we are not at 100% across the board, including with patients following up on all of our recommendations. This reflects the complexity and challenges in providing optimal care for these conditions. The steadily increasing number of participants in our care management program also shows that there is a significant demand among college and university students for these services.