Design and Interest in Virtual Diabetic Education from Patients and Providers

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Background

• American Diabetes Association (ADA) recommends providing diabetic patients with self-management education
• Less than half of diabetic patients receive formal self-management education
• Barriers include
  – Clinicians infrequently refer patients
  – Inadequate numbers of certified diabetic educators
  – Time intensive
  – Transportation barriers
  – Prohibitive copayments or a not covered benefit
For Patients: Diabetes class and program registration

How to register for diabetes education

The following forms and information are required for all programs except the Pre-diabetes Program. If you have questions, contact the Inova Diabetes Center location where you will be receiving services.

Steps to register for classes

Cómo registrarse para el programa de educación en diabetes

1. Ask your physician to complete an order form.
   Print a physician order form for diabetes education to take to your doctor. Inova Diabetes Center requires an order form from your doctor to provide services.

2. Choose a location.
   Find the location for the class or program that interests you and call to reserve a spot.

3. Check with your insurance company about coverage.
   Some insurance companies also require pre-authorization to cover our services.
Coverage May Not Be Known Until After the Fact...

Insurance Coverage for Diabetes Education

Fees for Inova Diabetes Center programs are set individually. Many insurance plans cover diabetes education, but it is important you confirm coverage in advance with your insurance company. Call your plan's customer service number and ask if diabetes self-management training is covered.

For most group classes or individual consultations, we bill your insurance company directly. Co-payments, if applicable, are due at the time of your visit. The Preventing Diabetes Program is a self-pay program you pay for at the time of registration.

Download an order form for diabetes education to take to your physician.
Objective

• To better help patients with uncontrolled diabetes, we sought to test the use and impact of a novel patient educational tool integrated into primary care workflow called the Diabetes Engagement and Activation Platform (DEAP)

• Key innovations include:
  – Utilizes existing infrastructure – portals and care teams
  – Proactive and automated
  – More accessible
  – Patients identify and direct needs
Overall Study Design

• Patient-level randomized controlled trial
• All patients with HgbA1 > 8.0 (goal 160 patients)
• Initially include 9 primary care offices (183 clinicians) in Virginia from Privia Medical Group
  – After go live added 13 primary care and 2 endocrinology offices (additional 111 clinicians), in VA, GA, MD
• Outcomes include use of DEAP, knowledge, confidence, patient activation*, and disease control (A1c, blood pressure, lipid values, number of medications) – 3 and 6 months after randomization
A1c result >8

Patients emailed invitation to visit portal – message about study

Patients agreeing to participate asked Patient Activation Measures

System randomizes 160 patients to intervention or control in 1:1 ratio

Control – Single handout

Intervention – 9 DEAP modules
- PDF educational material
- Emmi video(s)
- Knowledge, confidence questions

Care team alerted for low confidence

Clinicians get updating summary

Patient ask to complete Patient Activation Measures 3 and 6 months after invitation
9 Modules Based on ADA Curriculum

1. Describing diabetes
2. Nutritional management
3. Physical activity
4. Medications
5. Monitoring blood sugars
6. Acute diabetic complications
7. Chronic diabetic complications
8. Psychosocial stresses
9. Strategies to promote healthy behaviors

Patients receive one module at a time, and progress through modules by:

- Completing all actions within a module
- “Skipping” a module
- Not completing a module in 7 days
Module 1 “Describing Diabetes”

Hi Sam Jones,

This is the first of nine modules to help you better manage your diabetes. This module explains what diabetes is and general things you can do to manage it better.

To learn the basics about diabetes, this module has three sections:

- Read – Basic Diabetes Information
- Watch the video – Diabetes Type 2
- Test your knowledge – take the assessment on the basics of Diabetes

Please complete each section to move on to the next module. I will be keeping track of your progress, and my team is available to answer questions.

Best of health,
Dr. Alexander Krist

Click [here](#) to skip this course and immediately begin “Module 2: Managing Your Diet”
Example of Educational Material

SELF MANAGEMENT TOPIC 1
What is Diabetes and What Can I Do to Manage It?

The most important thing you can do to stay healthy is to control your "ABCs."

A
A1C
A1C is a blood test that shows what your average blood sugar level has been during the last few months.

B
Blood Pressure
If you have diabetes, controlling your blood pressure is just as important as controlling your blood sugar. High blood pressure puts you at risk for heart attack, stroke, and kidney disease.

C
Cholesterol
Cholesterol is a waxy substance found in the blood. High cholesterol is another factor that increases your risk of heart attack, stroke, and other serious problems.

Basic Information

Type 1 Diabetes: The Problem
- The body’s cells do not respond to insulin.
- The body does not make enough insulin.
- Glucose builds up in the blood.

Type 2 Diabetes: The Problem
- The body’s cells do not respond to insulin.
- The body does not make enough insulin.
- Glucose builds up in the blood.

Successful self-management of diabetes requires a lifelong management plan, and persons with diabetes have a central role in this plan.

Why are my ABCs so important?
Compared with people who do not have diabetes, people who have diabetes are 2 to 3 times more likely to have a heart attack or a stroke. By keeping your ABCs under control, you can lower your risk of these problems by a lot. Also, staying as healthy as possible may help with energy level, mood, and sexual function.

What should my ABC levels be?
The levels you should aim for will depend on how severe your diabetes is, how old you are, and what other health problems you have. Ask your doctor or nurse what your target levels should be.

Target for many people with diabetes:
- A1C levels below 7 percent
- Blood pressure below 120/80 or lower in some cases
- LDL cholesterol (sometimes called "bad cholesterol") level below 100

Managing your Diabetes
How can I control my ABCs?

Routine medical care is important to preventing, detecting, and slowing the progression of complications.

Your healthcare team can recommend a management plan that is periodical reevaluated to detect health problems.

Lifestyle Modifications
Lifestyle modifications can be very effective in keeping diabetes in control. Improved blood sugar control can slow the progression of long-term complications. It is important to learn as much as possible about diabetes and take an active role in making decisions about healthcare and treatment.

Understand how to balance food intake, physical activity, and medication.

Improve your ABCs

<table>
<thead>
<tr>
<th>ABCs</th>
<th>Help with A1C</th>
<th>Help with blood pressure</th>
<th>Help with cholesterol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Take your daily medications</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>Make healthy food choices</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>Be active</td>
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<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>Lose and maintain a healthy weight</td>
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<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>Limit alcohol</td>
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<td>✔️</td>
<td>✔️</td>
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</tbody>
</table>
Clinician Alerts

- As patients complete module, summary sent to PCP or to designated DEAP coordinator
- Summary includes patient’s answers, confidence, and desire for help
Actions Taken for Each DEAP Module

- Expanded sites (9 to 24)
- Expanded patients (from 160 to 359+)
- 169 control and 190 intervention patients
- 141 (74%) intervention patients progressed to module 9
- Other educational campaigns have a 20-30% uptake for 1 action
Average Patient Confidence for Modules

<table>
<thead>
<tr>
<th>Confidence Level</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all confident</td>
<td>2%</td>
</tr>
<tr>
<td>A little confident</td>
<td>2%</td>
</tr>
<tr>
<td>Somewhat confident</td>
<td>27%</td>
</tr>
<tr>
<td>Very confident</td>
<td>41%</td>
</tr>
<tr>
<td>Completely confident</td>
<td>28%</td>
</tr>
</tbody>
</table>
Care Team Alerted: “Not at all confident” or “Want help”
Patient Knowledge

Four most commonly missed questions

- (91%) Potentially taking aspirin, controlling blood pressure, and potentially taking a cholesterol medicine may be more important than controlling your blood sugar. (true, false)

- (65%) How many servings of vegetables and fruits should you have in a day? (1, 2, 3, 4, 5)

- (38%) Low blood sugar can be caused by: (heavy exercise, not insulin, infection, overeating)

- (32%) Hemoglobin A1c is a measure of your average blood sugar level for the past (day, week, 6-12 weeks, 6 months)
Limitations

• Selection bias from respondents
• No comparison of knowledge and confidence for control group
• Not effective for patients without a portal account

Next Steps

• Assessing impact on diabetes outcomes
  – A1c, lipids, blood pressure, statin/aspirin use, office visits
  – Patient activation
• Future study to build and test role for the multi-disciplinary care team
Key Conclusions

• Much greater patient, clinician, and practice uptake than other similar initiatives
• High risk of non-response, if don’t mandate responses to knowledge, confidence, and desire for help (57-83% non-response rate)
• Patient knowledge and interest in help was surprisingly low for a cohort of patients with uncontrolled diabetes
Questions?

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