

Digital Diabetes Management Solutions

HEALTH TECHNOLOGY ASSESSMENT | MARCH 2024



Managing diabetes is hard: You have to go to the doctor regularly, take medication, measure your blood sugar by pricking your finger and using a glucometer, and change what you eat and how much you exercise.

You may have heard that there are smartphone-based apps that connect to your glucometer and may be able to help you better manage your diabetes between doctor's visits. These programs offer features like real-time coaching and feedback to help you adjust what you eat, what exercises you do, and which medications you take. We call these programs "digital diabetes management solutions."

At the Peterson Health Technology Institute (PHTI), we evaluated these programs to understand how well they work. PHTI is a non-profit organization focused on making better, more affordable healthcare a reality for all Americans. To conduct our assessment, we looked at the research and spoke with doctors, patients, and the companies that make these solutions. We did *not* look at solutions that use continuous blood glucose monitors (that is, a patch on your arm that automatically measures blood glucose) or insulin pumps (that is, a device that supplies a continuous flow of insulin under your skin).

What We Found

- 1 Most patients with type 2 diabetes will see only small additional improvements to their care from using digital diabetes management solutions.** In general, the data on these solutions suggest that they do not provide much additional benefit in hemoglobin A1c levels beyond what you are likely to achieve through usual care without a digital app. Behavior and lifestyle modification solutions include coaching and nutritional advice, in addition to glycemic feedback. Typically, the feedback is provided by algorithms or clinical staff/coaches affiliated with solution.
- 2 For a small number of patients, these solutions may help.** If you are starting insulin for the first time and think that more information and support may help you to better manage this change, these programs may be beneficial.
- 3 If you are interested in making significant lifestyle and diet changes to try and achieve diabetes remission, one type of program may work better than others.** This program, offered by Virta, requires an intensive high-fat, low-carbohydrate diet to improve the way your body processes sugar, by initiating a metabolic process called ketosis. This program is challenging as it requires extensive diet change and can be hard to start and stick with over time, but it could help you control your blood glucose and be able to stop taking some of your diabetes medications.

What It Means for You

We found that unless you are a patient with a high HbA1c who is starting insulin for the first time, most digital diabetes management solutions provide limited health benefit.

However, if you are committed to reversing your diabetes, programs that enable nutritional ketosis by supporting adherence to an intensive high-fat, low-carbohydrate diet may be beneficial.

If you are...

- motivated to manage your diabetes and willing to make major dietary changes over a long period of time;
- comfortable with using apps on your smart-phone or tablet, or interested in learning; and
- motivated by real-time feedback and coaching;

...you should discuss with your doctor whether starting a nutritional ketosis program may be beneficial for you.

You can also share PHTI's research with your doctor to help them understand which digital programs have solid research to back their claims and which ones don't.

These solutions are constantly changing, and this review is based off of current solutions and data.

Costs

If your doctor recommends a program, you may be able to access it through your employer or health plan for free. If not, many programs offer a self-pay option.

Accessing PHTI's Full Report

You can access the full report [here](#).

