

# Impact of a Digital Diabetes Prevention Program on Risk Factors for Chronic Disease in a Workforce Cohort

## Background

- In 2010, the Centers for Disease Control and Prevention developed a National Diabetes Prevention Program (DPP), which uses an individualized in-person curriculum for lifestyle and behavioral modifications.<sup>1</sup>
- In workplace settings, in-person DPPs are effective, but implementation can be difficult owing to employee availability or location (eg, working remotely).
- To address these challenges, digital lifestyle and behavioral counseling programs have been developed and shown to reduce chronic disease risk factors in workplace settings.<sup>2,3</sup> However, studies demonstrating their effectiveness have lacked non-intervention control groups.
- **Objective:** The investigators of this study assessed the effect of a digital DPP (dDPP) on risk factors for diabetes and cardiovascular disease in workforce and control populations.

## Methods

- In this retrospective study, employees and their spouses were eligible if enrolled in an annual health assessment at the end of 2015, 2016, and 2017. Participation in a dDPP was offered to individuals who had a body mass index (BMI)  $\geq 24$  kg/m<sup>2</sup> and a fasting glucose (FG)  $\geq 100$  mg/dL or an HbA1c  $\geq 5.7\%$  at the end of 2016.
  - The intervention group included individuals who completed  $\geq 1$  lesson.
  - The control group included individuals who were not offered and did not participate in 2017 but participated in 2018; their later participation indicated motivation to change diet and exercise. The control group was matched to the intervention group for multiple patient characteristics.
- The dDPP (Omada Health Program<sup>®</sup>) aimed at weight loss through online tools that enable lifestyle and behavioral changes, tracking health goals, coaching, and support groups.
- Annual changes (post- vs pre-dDPP intervention) in chronic disease risk factors for the intervention and control groups were compared.

## Results

- The baseline characteristics were similar for the intervention (n=84) and control (n=252) groups.
- For the intervention group, significant annual changes were observed for the following chronic disease risk factors post- vs pre-dDPP intervention:
  - Body weight: -11.5 lbs; -5.0%,  $P < 0.0001$
  - BMI: -2.0 kg/m<sup>2</sup>; -5.3%,  $P < 0.0001$
  - FG: -13.0 mg/d; -12.2%,  $P = 0.005$
  - Total cholesterol: -11.6 mg/dL; -5.9%,  $P = 0.004$
  - LDL cholesterol: -8.6 mg/dL; -7.3%,  $P = 0.039$
  - Triglycerides: -32.8 mg/dL; -20.3%,  $P = 0.026$
- For the control group, no significant annual changes were observed in the evaluated chronic disease risk factors.
- Compared to the control group, the intervention group had significant annual changes in body weight, BMI, and FG.

## Conclusions

- These findings show that a dDPP can help reduce risk factors for diabetes and cardiovascular disease among a workplace population.
- They also show that a dDPP can be integrated into an annual health assessment with biometric screening.

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### Authors

Charles E Birse,<sup>1</sup> Dov Shiffman,<sup>1</sup> Anita Satish,<sup>1</sup> Maren S Fragala,<sup>1</sup> Andre R Arellano,<sup>1</sup> Cynthia M Castro Sweet,<sup>2</sup> Robert J Lagier<sup>1</sup>

### Affiliations

<sup>1</sup> Quest Diagnostics, San Juan Capistrano, CA

<sup>2</sup> Omada Health, San Francisco, CA

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### Webpage

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