# Diabetes Prevention in an Occupational Setting

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## Background

**Why Diabetes Prevention?**
- Diabetes is prevalent.
  - Nearly 29.1 million people have type 2 diabetes (T2D)
  - Every 21 seconds someone is diagnosed with T2D
  - More than 86 million Americans have prediabetes
  - 9/10 prediabetics are unaware they have it!
- Diabetes is serious.
  - Seventh leading cause of death in US
  - Diabetics may have 2.3x more healthcare costs
- Diabetes is preventable.
  - A structured lifestyle change program can reduce risk of progression from pre-diabetes to T2D by 58%, by 71% if age > 60
  - 10-year follow-up revealed that those enrolled in lifestyle change program 1/3 as likely to develop T2D

## Objectives

The purpose of this study was to pilot a structured diabetes prevention program to employees in an occupational setting to determine:

- Ease of Implementation
- Participant Acceptance
- Program Completion

## Methods

- **A 3-month pilot was implemented**
  - Followed NIH initiative using CDC curriculum
  - In-person group and tele-sessions
- **Statistical Analysis**
  - ANOVA and Post-hoc Pairwise T-tests for repeated variables and differences

1. Employees recruited and screened
2. Goals of physical activity & healthy eating discussed
3. Logged weekly: weights, activity, calories, attendance
4. Weekly lifestyle coach education and facilitation

## Results

- **Twelve employees enrolled**
- **All were high risk of developing diabetes**
  - HbA1C ≥ 5.7
  - Avg Score = 13 (0-19; >9 high risk progress to T2D)
- **Eight of the twelve employees completed 3 month pilot**
  - Attendance = 67%
  - Participants requested to continue program 6 months or more
- **Half lost 2% of initial body weight by month 3**
- **Individual weight loss up to ten pounds**
  - Almost half the annual weight loss goal
  - Average weight loss of two pounds

## Conclusions

- Results suggest that implementation of the structured DPP in this setting helps employees progressively reduce dietary intake of calories through educated, healthy food choices.
- Similar structure facilitates gradual increase in moderate physical activity (e.g., brisk walking) to ≥150 minutes per week.
- This intervention fosters participant motivation to establish permanent lifestyle change.
- All these factors leading to progressive weight loss
- Given results, imply that all participants who continue the program may achieve the goal of a 5-7% weight loss during 12 months of intervention.
- Consequently, these participants will have reduced risk of developing T2D.

## Discussion & Future

- Many healthcare employees are aware of own health status but have challenges implementing realistic, permanent lifestyle change.
- Analysis of HbA1C at 6 & 12 months is underway
- Early review of peri-interventional job satisfaction surveys, suggests DPP structured lifestyle change may qualitatively impact general behavioral problem-solving and coping skills in the workplace.
- Obstacles affecting attendance found to be varying work schedules and life events - greatest hurdles
- Make-up sessions offer alternatives

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**References**

2. Center for Disease Control and Prevention, 2015