

Use of the BEATDiabetes mHealth Program to Improve Glycemic Control in Type 2 Diabetes

Susan K Blank, MD



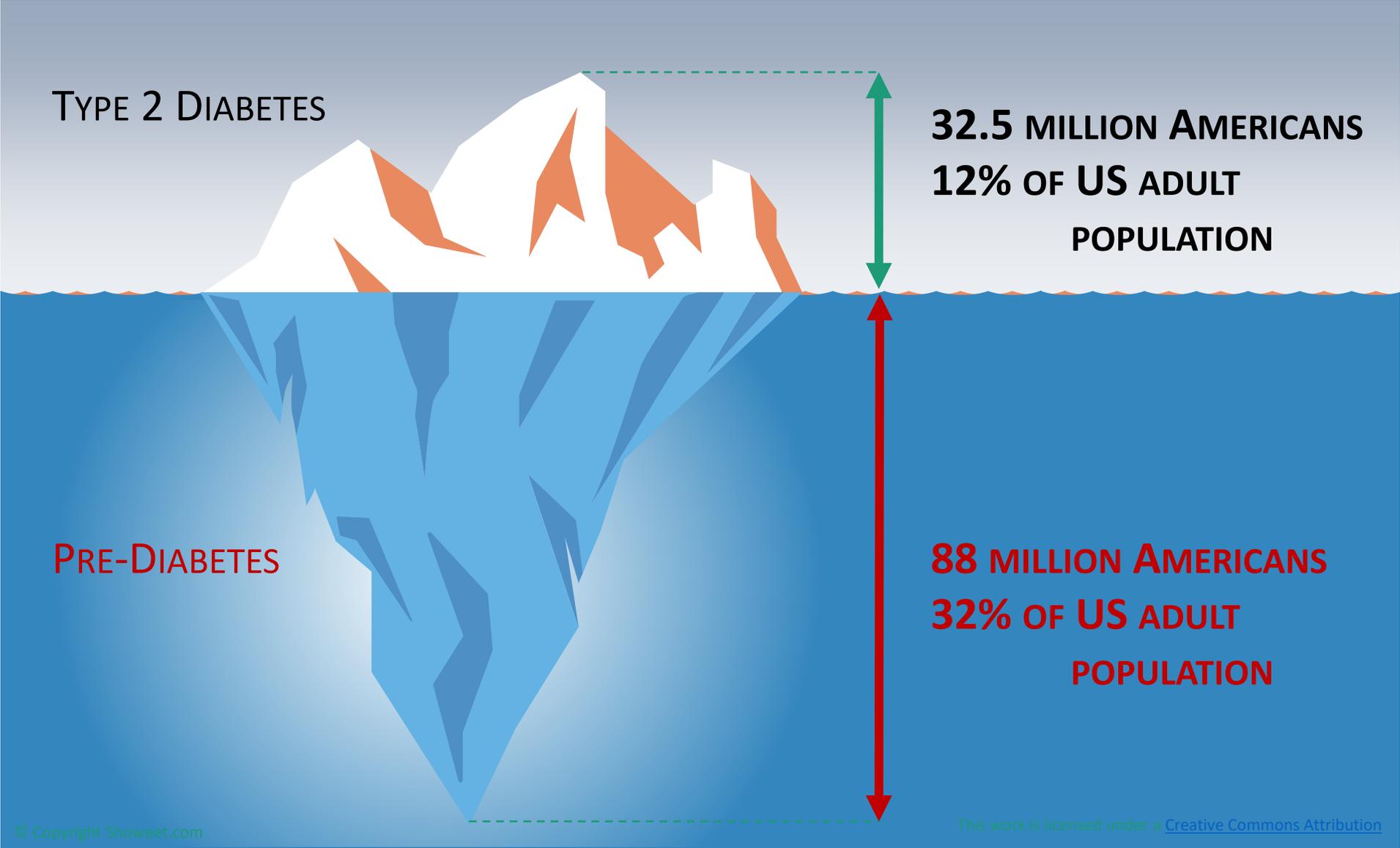
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Disclosure

- I have no actual or potential conflict of interest related to this presentation.
- BEATDiabetes is a 501(c)(3) non-profit organization.

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Scope of the Problem - Prevalence



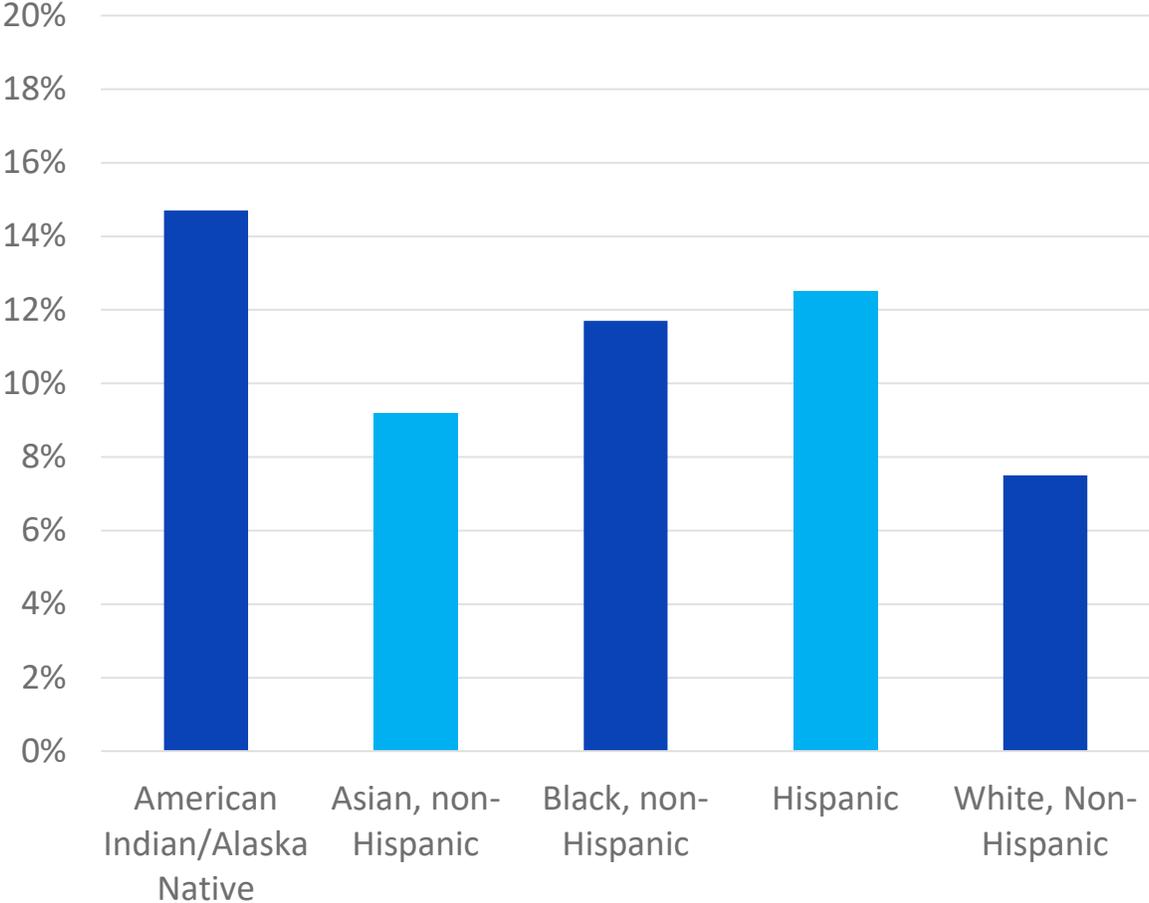
Scope of the Problem

Morbidity/Mortality

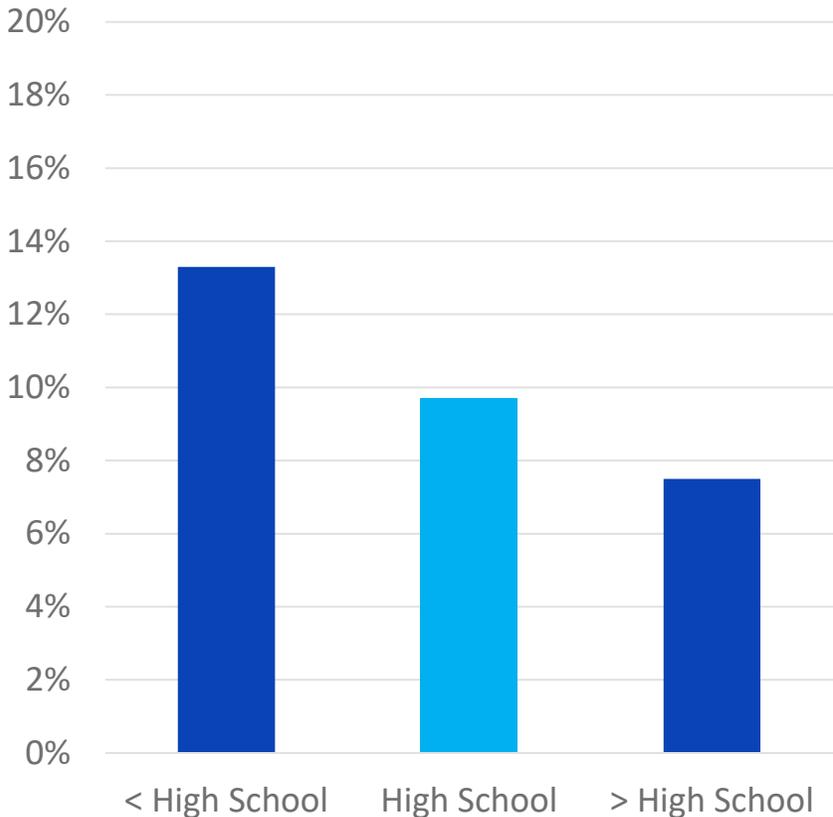
- Leading cause of:
 - Blindness
 - Non-traumatic lower limb amputation
 - Kidney failure
- Associated with 1.5-1.8x higher rates of heart attack, stroke, and cardiovascular death
- 7th leading cause of death

Type 2 Diabetes Prevalence

Prevalence of Diabetes By Race/Ethnicity

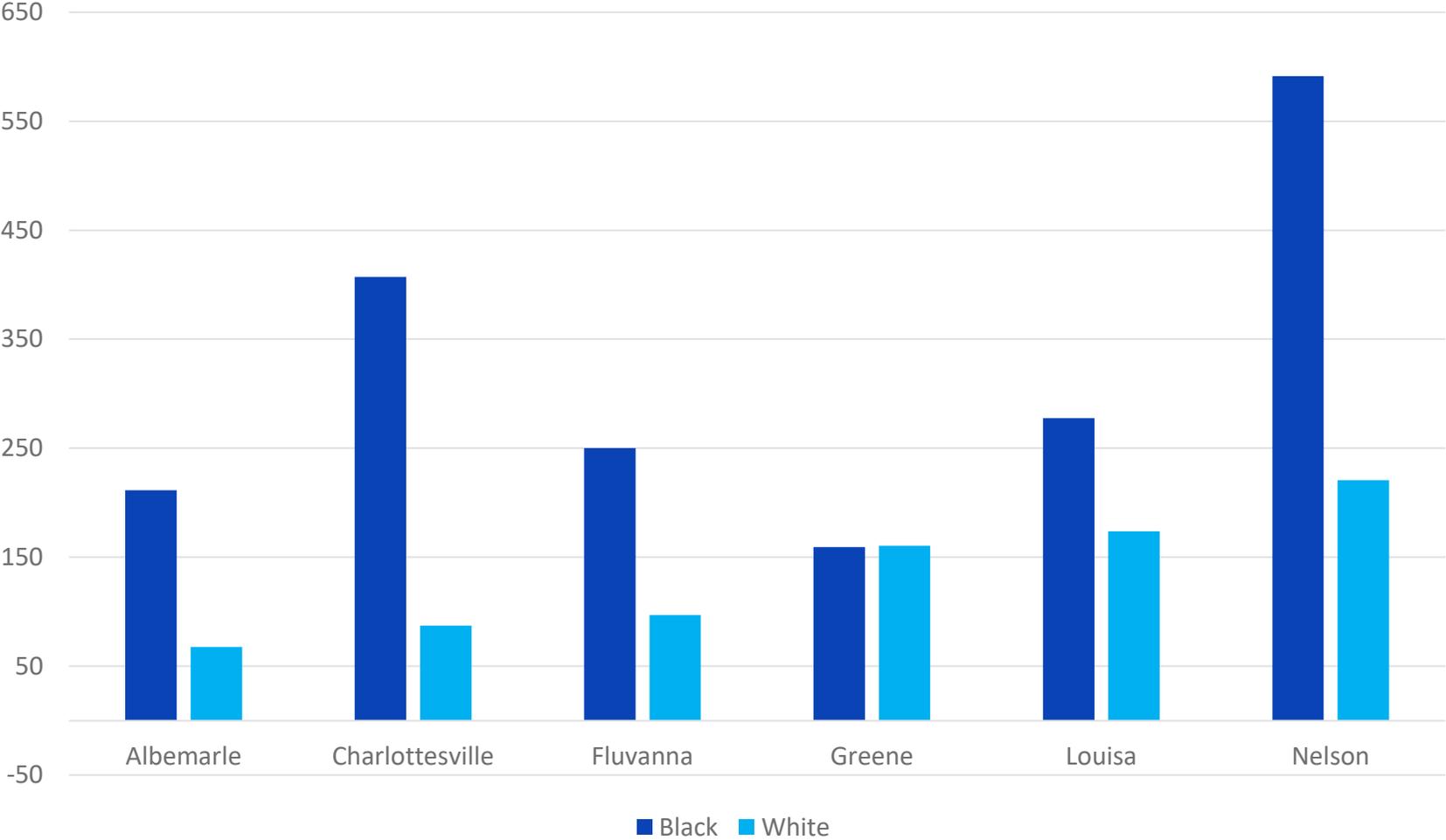


Prevalence of Diabetes By Education Level



Type 2 Diabetes Hospitalizations by Race

Diabetes Hospitalization Rates per 100,000 Persons in the Blue Ridge Health District by Race and Locality



BEATDiabetes

Mission

- To empower people with Type 2 diabetes and prediabetes to improve their health through the use of clinically proven mobile technology solutions, with a special focus on underserved populations that face barriers to care.

Vision

- **Move the Needle on Type 2 Diabetes**
 - Fewer diabetics
 - Better blood sugar control
 - Fewer complications
 - Lower cost of care
 - Decreased healthcare disparities in diabetes prevalence and outcomes.



BEATDiabetes Program

BEATDiabetes is a 12 month digital health program that combines frequent text message-based engagement and financial incentives to help catalyze behavioral change and improve glycemic control in people with Type 2 diabetes and prediabetes.



ADVICE



PROMPTS



INCENTIVES

Text Messaging

Text Message-Based Engagement

- Low cost
- Widely available
 - 97% of Americans have cell phones
 - High penetration (92+%) even in lower income, rural, and > 65 year old populations
- Familiar technology people are already using
 - 97% of smartphone users text in a given week
- Communicates information in easily digestible, 160 character increments
- Reaches patients when & where they are
 - Does not require patient motivation
 - Can refocus attention when it is elsewhere
 - Accessible to patients with limited access to healthcare





Advice

- Practical advice on diet, exercise, and diabetes self-care or prevention
- Delivered by text 3-5 times a week
- Designed to be simple, memorable, and actionable
- Semi-customized based on enrollment questionnaire
 - Different messages if participant smokes, drinks soda, is the primary grocery shopper, is disabled, etc.



Advice

BIG plates, BIG problem. Studies show that people serve more food on big plates. Switch to smaller plates (like salad plates) to help with portion size.

Use the Half Plate Rule: fill half your plate with vegetables or fruit. Be sure to stick to the half plate rule if you go back for seconds!

Take a walk after you eat. Walking for 15 minutes after meals can improve your blood sugars.

Limit your intake of “white” foods – bread, pasta, rice, potatoes. Switch to whole grain, brown versions instead (100% whole grain bread and pasta, brown rice).

Today, 200 Americans will undergo an amputation because of diabetes. Don't become one of them! Control your blood sugars and protect your feet.

Did you realize that some sweetened drinks (soda, juice, iced tea, coffee) have as much sugar as a dessert?! Rethink your drink! Stick with water, unsweetened tea, and plain coffee.



Advice



Follow the Half Plate Rule

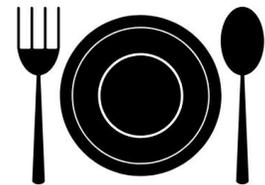
Fill half your plate with vegetables and fruits.



Eat the Rainbow



It takes 15 minutes of walking...



...to burn off 100 calories.



THE GREATEST GIFT YOU CAN GIVE YOUR FAMILY & THE WORLD IS A HEALTHY YOU.

-JOYCE MEYER

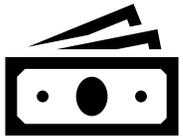


Prompts

- Optional, customized reminders
 - Blood sugars
 - Medications
 - Exercise
 - Personalized or general motivational messages
- Frequency/timing determined by participant
- Set up during enrollment, can be modified over course of program

Hi Tina! It's time to check your blood sugar. Don't forget to record it so you can share it with your doctor.

Good morning! Time to take your diabetes medication.



Incentives

- Based on meeting A1C targets
 - Type 2 Diabetes: 1 point improvement compared to previous lowest A1C while in the program **OR** A1C less than 7
 - Prediabetes: A1C or fasting glucose in the normal (non-prediabetic) range
- Incentive
 - Entry into \$1000 drawing held 3x/year
 - Can double or triple number of entries by achieving bigger A1C drops (2 or 3 points) or meeting A1C targets on multiple consecutive visits

The \$1000 BEATDiabetes drawing is next month. You don't want to miss out! Work hard to control your blood sugars & get your A1C to goal to earn your entry.

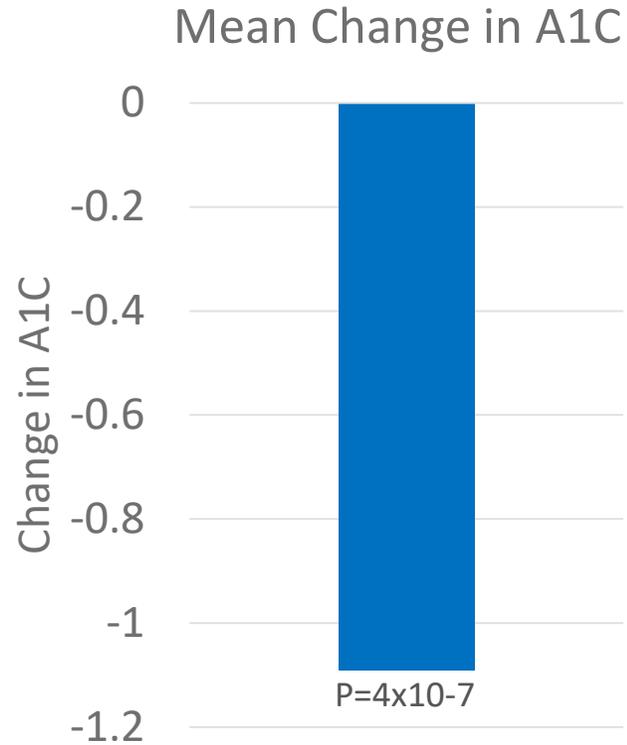
Congratulations on getting your A1C to the target of less than 7! You have qualified to enter the \$1000 drawing next month. Good luck & keep up the good work!

Type 2 Results – Demographics

Follow-up data on 135 participants

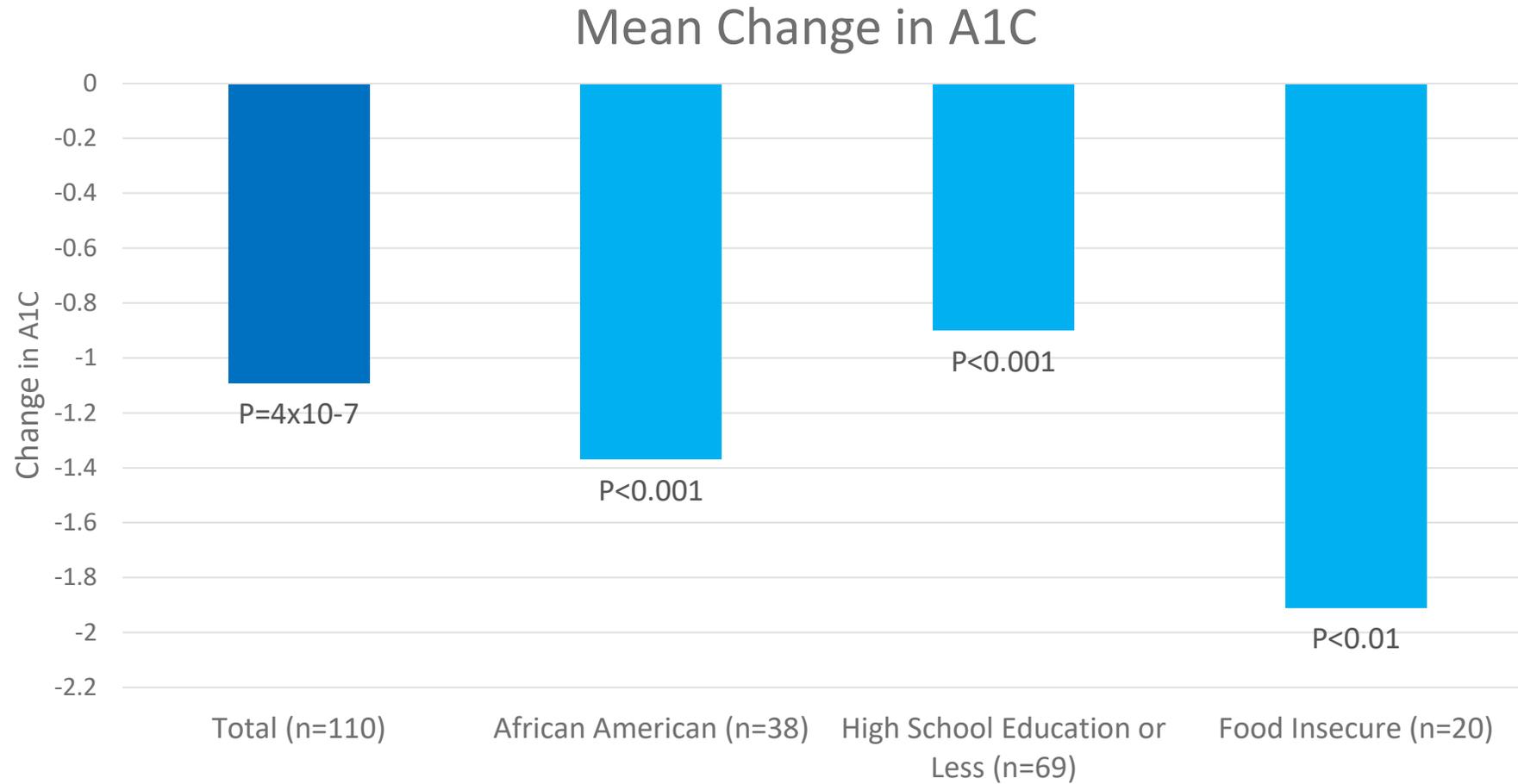
- Age: Average 55, range 24-87
- Gender: 31% Male
69% Female
- Race: 61% White
35% Black
1% Asian
3% No answer
- Ethnicity: 2% Hispanic or Latino
98% Not Hispanic or Latino
- Insurance: 42% Commercial Insurance
34% Medicare
15% Medicaid
6% No Insurance
3% No answer
- Food Insecure: 17%

Type 2 Results – Participants with Baseline A1Cs ≥ 7

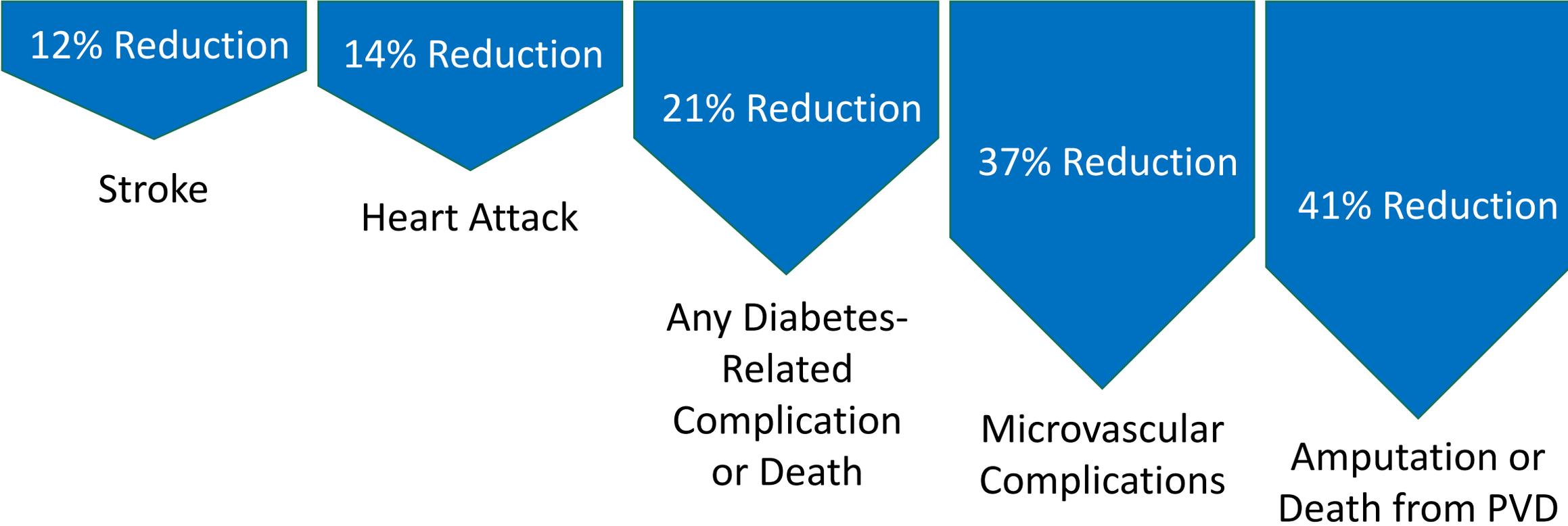


n	110
Baseline A1C	9.2 \pm 1.9
Days since enrollment	236 \pm 96
% with improvement ≥ 0.5	58%
% with improvement ≥ 1	47%
% with improvement ≥ 2	25%
% achieving A1C <7	25%

Type 2 Results – Participants with Baseline A1Cs ≥ 7

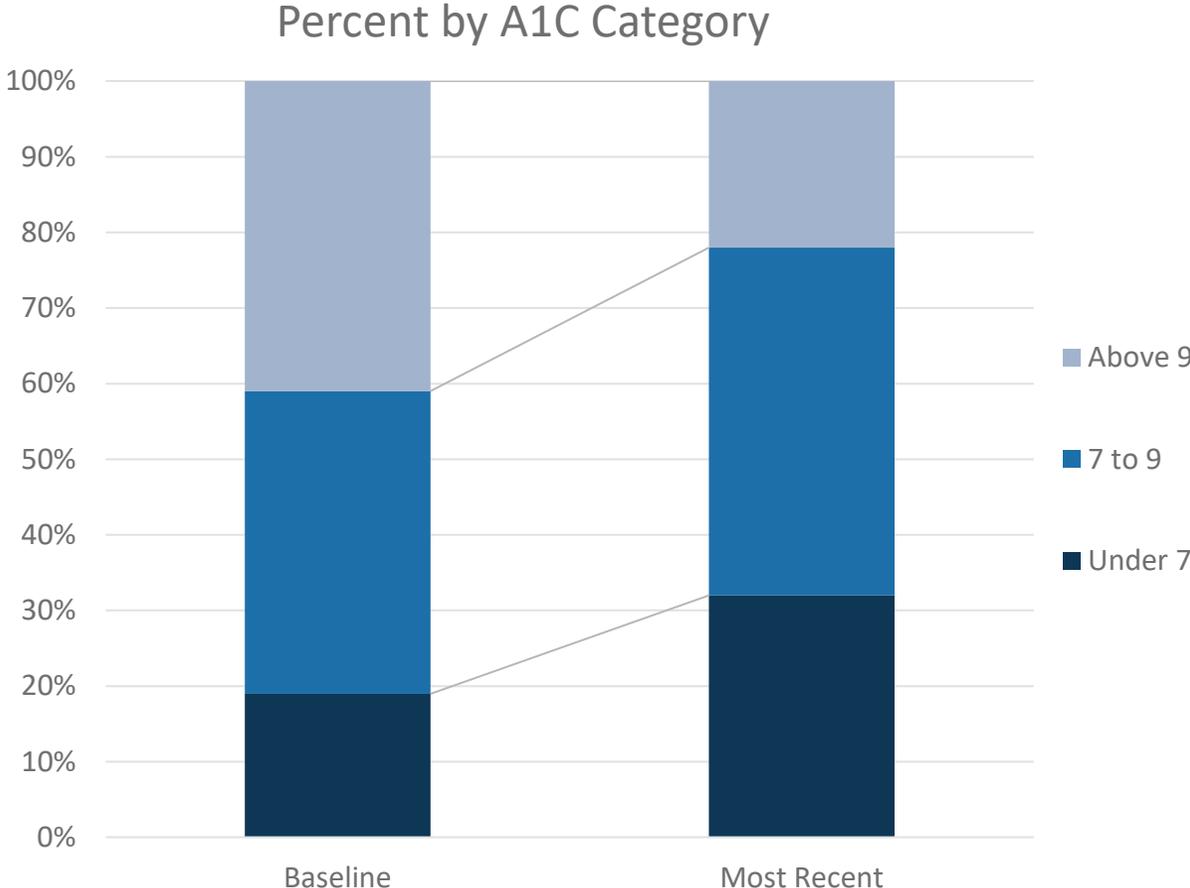


Impact of each 1% A1C Improvement



A1Cs improvements of the magnitude achieved with BEATDiabetes are associated with decreased risk of diabetes complications.

Type 2 Results – All Participants (n=135)



Charlottesville BEATDiabetes Challenge



- Free for people with prediabetes or Type 2 diabetes in Charlottesville and surrounding area
- All participants need is a mobile phone that can receive text messages
- To learn more or sign-up, go to www.beatT2diabetes.com
- Printed flyers, information cards, and enrollment forms available

How It Works

- Service is provided at no cost to participants
- Can discontinue program at any time by texting STOP
- All specific questions about blood sugars, medications, etc. are referred to health care team
- Available in Spanish
 - Currently accessed through link, not website

Conclusion

- Additional free resource to offer patients with Type 2 diabetes and prediabetes
- Can help support and reinforce lifestyle and diabetes prevention/self-care advice between clinical encounters
- Improved clinical outcomes, including in higher risk populations negatively affected by health disparities

To Learn More

- Website: www.beatT2diabetes.com
- Susan Blank, MD
 - E-mail: sblank@beatT2diabetes.com
 - Phone: 434-234-7676

