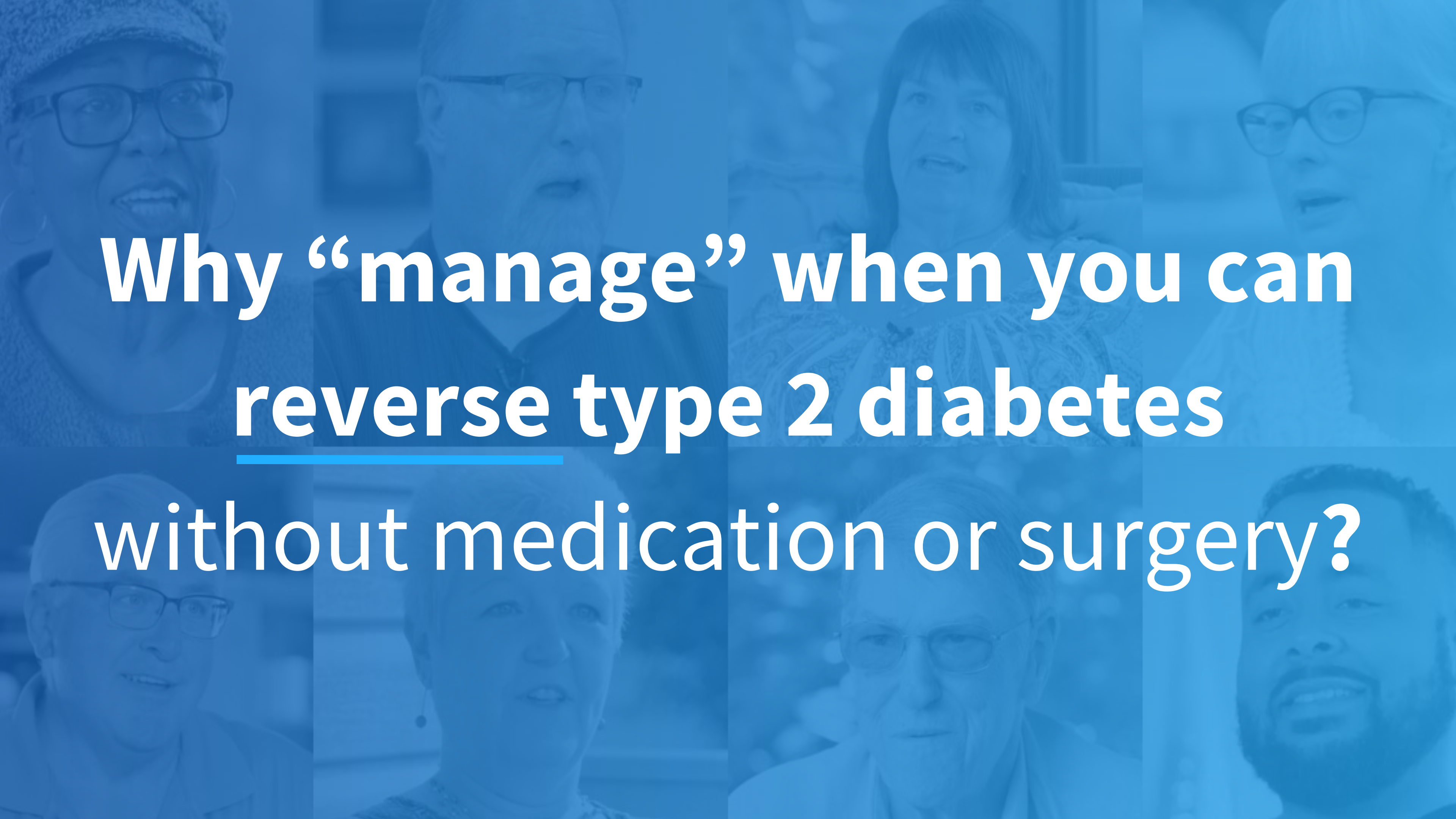


# Evidence for a new category of diabetes care: Reversal

**James McCarter MD PhD, Head of Research, Virta Health**

September 20, 2018





**Why “manage” when you can  
reverse type 2 diabetes  
without medication or surgery?**



# Nate is typical of Thousands of Virta patients

*24 years with type 2 diabetes and taking 290 units of insulin*

With the Virta treatment ...

- A1c down 1.4% **off insulin**
- BP down **off BP meds**
- 70 pounds weight loss
- Restored metabolic health



Nate, before and after Virta



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- 70 pounds weight loss
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Nate, before and after Virta

*“When I first stopped my medicines, I was scared, but I trusted my coach and personal doctor’s guidance. First, I cut back the insulin and then my blood pressure meds by half. Then, I got the news not to take insulin injections or the blood pressure meds at all. As I loaded my needle the morning after getting the news, it dawned on me that I didn’t have to do that anymore. After so long using insulin as a crutch to control my glucose, now I just looked at the bottles and needles sitting there. They reminded me that I’m conquering diabetes. I have hope!”*



FOR TODAY

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High Level Context

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Outcomes

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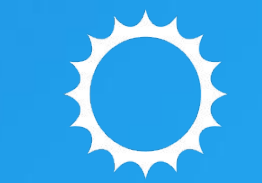
Patient Experience

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Enterprise Experience

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Conclusion



**virta**

FOR TODAY

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# High Level Context

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Outcomes

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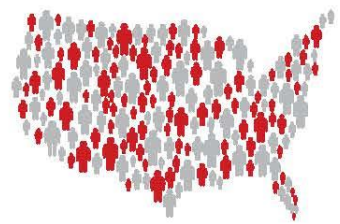
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Conclusion





## THE STAGGERING COSTS OF **DIABETES**



More than  
**30 MILLION**  
Americans  
have diabetes



Health care costs for  
Americans with  
diabetes are  
**2.3X** greater  
than those without  
diabetes



Diagnosed  
diabetes  
costs  
America  
**\$327**  
**BILLION**  
per year



**84 MILLION**

Americans have prediabetes



**\$1 IN \$7**

Health care dollars is spent treating  
diabetes and its complications



Today, **4,110** Americans will  
be diagnosed with diabetes.  
Additionally, diabetes will  
cause **295** Americans to  
undergo an amputation and  
**137** will enter end-stage  
kidney disease treatment.

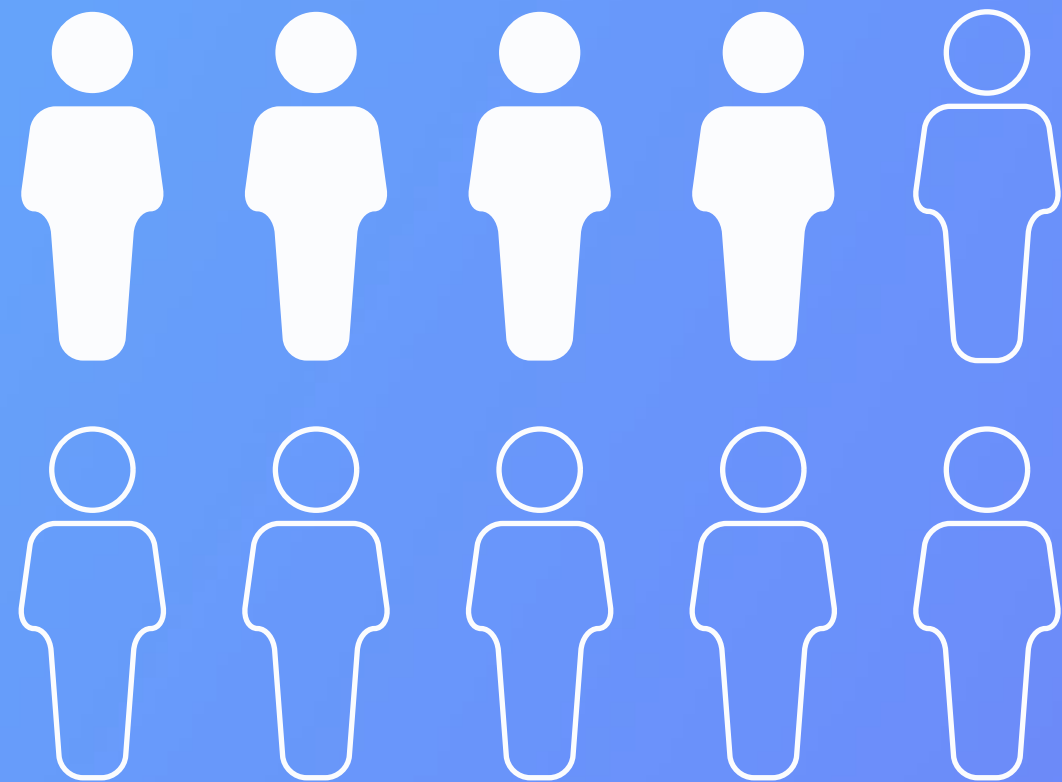
Learn how to fight this costly disease  
at [diabetes.org/congress](https://diabetes.org/congress)



Over 30 million  
Americans with  
diabetes costing  
\$327 billion annually  
*ADA 2018 estimates*

*Nearly **4 in 10** US Adults have*

## **PRE-DIABETES**

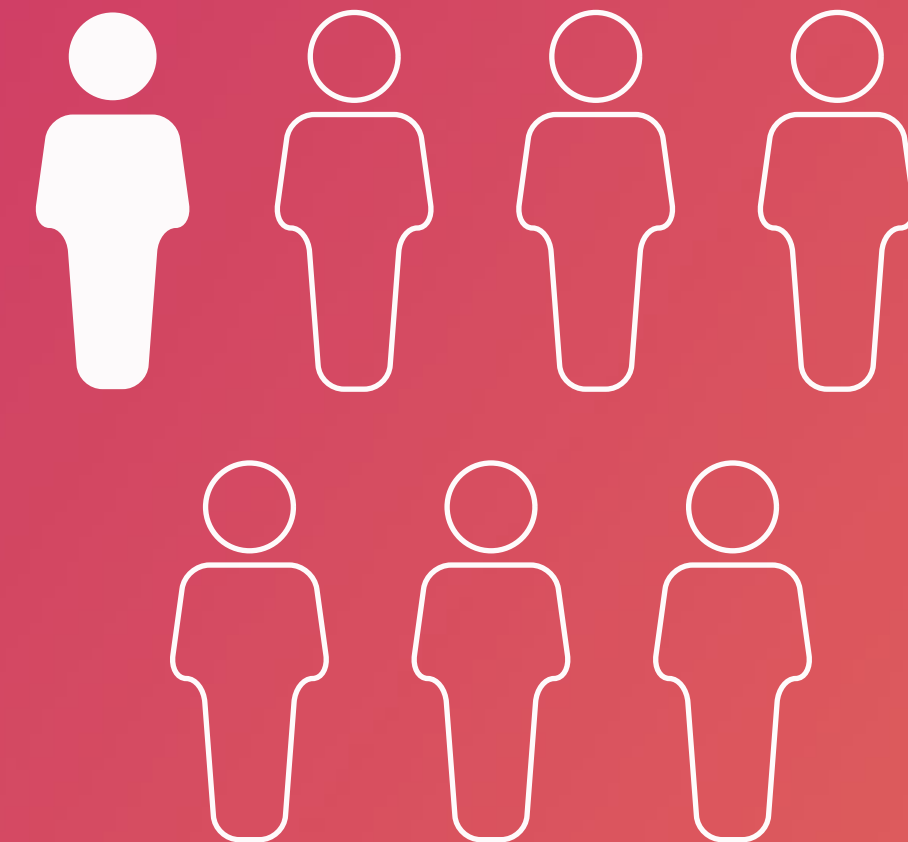


**38.0% of US Adults**

Menke A, Casagrande S, Geiss L, Cowie CC. Prevalence of and Trends in Diabetes Among Adults in the United States, 1988-2012. JAMA. 2015;314(10):1021-1029.  
*Note: Data is for 2011-2012*

***1 in 7** US Adults have*

## **TYPE-2 DIABETES**




**14.3% of US Adults**

Centers for Disease Control and Prevention. National Diabetes Statistics Report: Estimates of Diabetes and Its Burden in the United States, 2014. Atlanta, GA: US Department of Health and Human Services; 2014.  
*Note: Data is for 2011-2012*




# Redefining Categories of Care with Outcomes

**PREVENTION**





omada





**blue mesa**

# Redefining Categories of Care with Outcomes

PREVENTION





MANAGEMENT







# Redefining Categories of Care with Outcomes


PREVENTION



MANAGEMENT



REVERSAL



**What does not have evidence of Diabetes Reversal?**

**Usual Care**

**“0.1% diabetes remission rate”**



**KAISER PERMANENTE®**

Diabetes Care 2014 Sep; DC\_140874.





# The Virta Treatment is different from anything else

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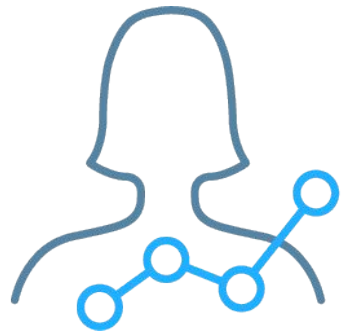
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# The Virta Treatment is different from anything else

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**Proven type 2  
diabetes reversal**

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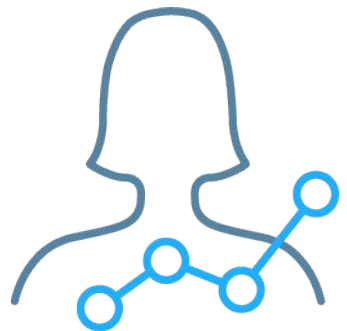
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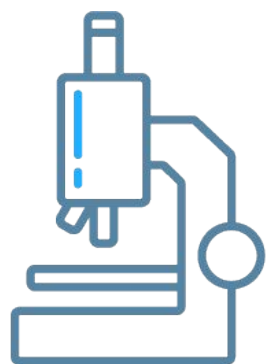
# The Virta Treatment is different from anything else

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**Proven type 2  
diabetes reversal**

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**Improves 4 other  
chronic diseases**

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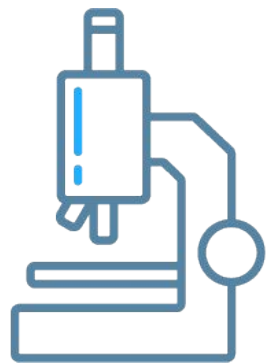
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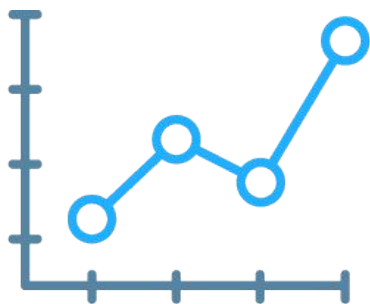
**Proven type 2  
diabetes reversal**

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**Improves 4 other  
chronic diseases**

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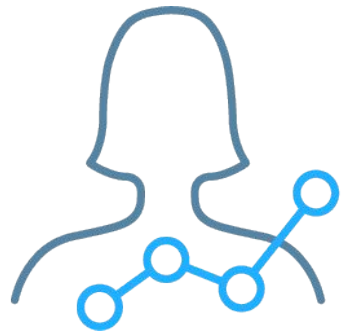
**Superior, peer-reviewed,  
published outcomes**

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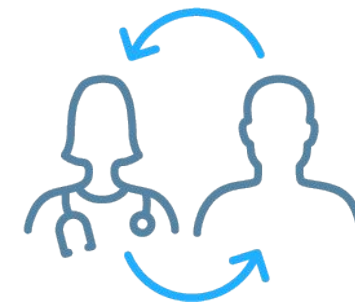


# The Virta Treatment is different from anything else

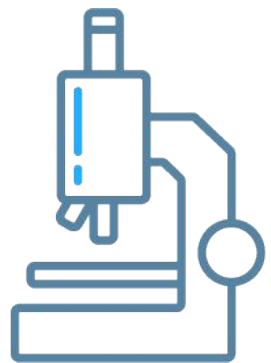
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**Proven type 2  
diabetes reversal**



**High activation (30%) &  
retention (90%) at 1 year**



**Improves 4 other  
chronic diseases**



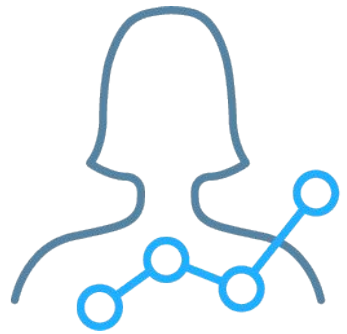
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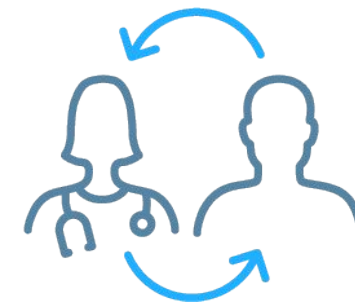


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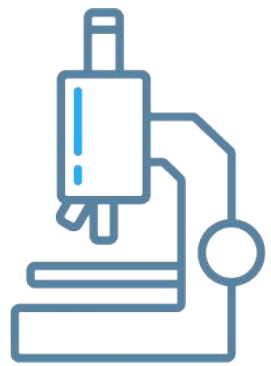
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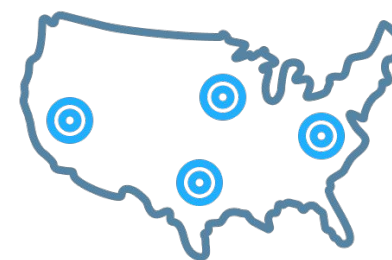
**Proven type 2  
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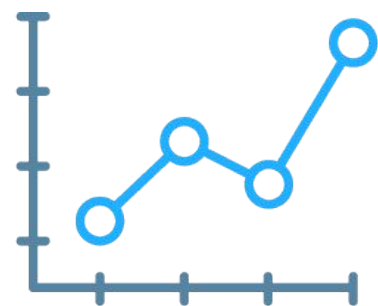
**High activation (30%) &  
retention (90%) at 1 year**



**Improves 4 other  
chronic diseases**



**Licensed medical provider  
in all 50 states with  
continuous remote care**



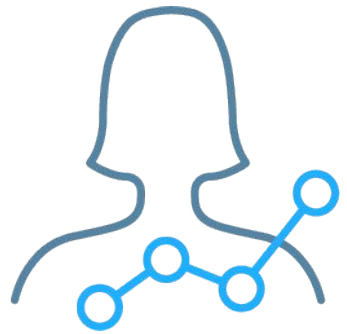
**Superior, peer-reviewed,  
published outcomes**

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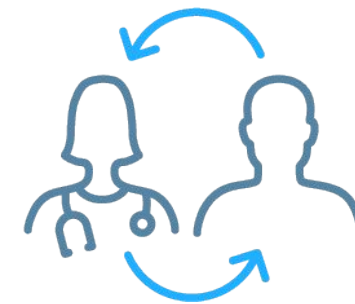


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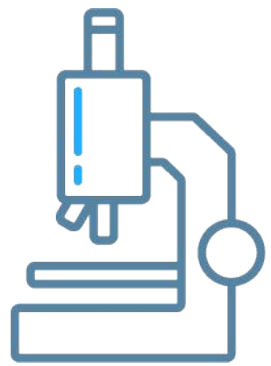
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**Proven type 2  
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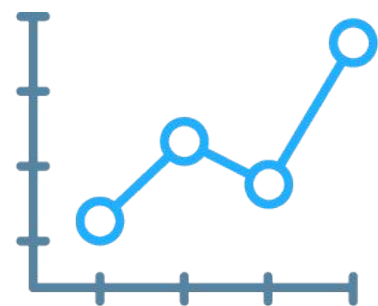
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**Licensed medical provider  
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**Superior, peer-reviewed,  
published outcomes**



**Fees at risk based on  
results**

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FOR TODAY

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High Level Context

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**Outcomes**

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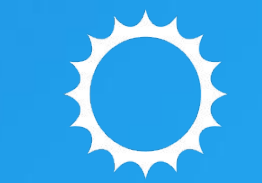
Patient Experience

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Enterprise Experience

---

Conclusion



**virta**



# Virta-IUH Clinical Trial

- 5 year, non-randomized prospective controlled study
- 465 participants recruited Aug 2015 - Mar 2016
- Active arm n=378, of which n=262 T2DMs
- Usual care arm n=87
- Central Indiana
- Mean age: 54
- Mean BMI: 40.3
- Mean weight: 257 lbs.
- Mean Yrs. T2D: 8.4
- 67% female

Hallberg et al. *Diabetes Therapy*, 2018.





# Virta-IUH Clinical Trial Demonstrates Reversal of Type 2 Diabetes Status at 1 Year

60%

of completing  
patients

reverse diabetes

*Glycemic Control without  
use of diabetes-specific  
medications*

Hallberg et al. *Diabetes Therapy*, 2018.  
Bhanpuri et al. *Cardiovascular Diabetology*, 2018.



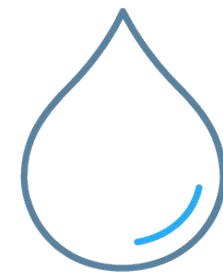
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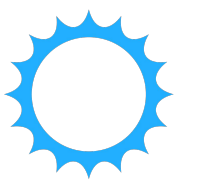


## Blood Glucose Improvement

**1.3%** average HbA1c reduction, **70%** below 6.5%

**85%** decrease at least 0.2%

Hallberg et al. *Diabetes Therapy*, 2018.  
Bhanpuri et al. *Cardiovascular Diabetology*, 2018.



**virta**



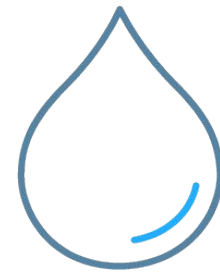
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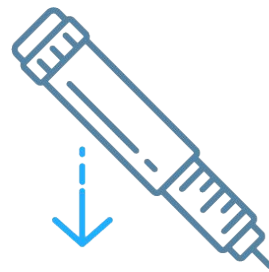
reverse diabetes

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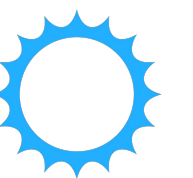


## Medication Reduction

**94%** of insulin users reduced or eliminated usage

**57%** of all diabetes-specific prescriptions discontinued

Hallberg et al. *Diabetes Therapy*, 2018.  
Bhanpuri et al. *Cardiovascular Diabetology*, 2018.



**virta**

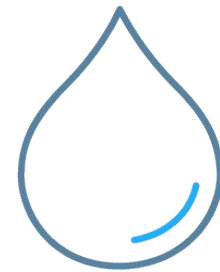
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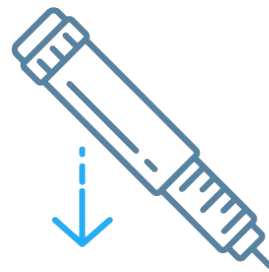
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*Glycemic Control without  
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## Blood Glucose Improvement

**1.3%** average HbA1c reduction, **70%** below 6.5%



## Medication Reduction

**94%** of insulin users reduced or eliminated usage



## Weight Loss

**12%** average weight loss (30 pounds)

**86%** of patients lost >5%

Hallberg et al. *Diabetes Therapy*, 2018.  
Bhanpuri et al. *Cardiovascular Diabetology*, 2018.



# Virta-IUH Clinical Trial Demonstrates Reversal of Type 2 Diabetes Status at 1 Year

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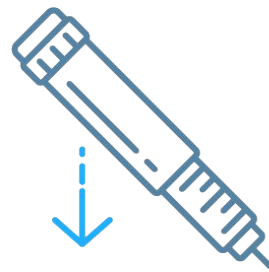
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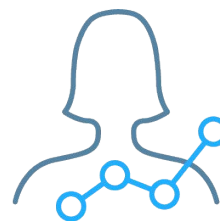
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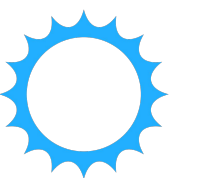
## CVD Risk Improvement including Dyslipidemia

**12%** improvement in 10-year ASCVD Risk Score

**22 of 26** risk factors show significant improvement

Hallberg et al. *Diabetes Therapy*, 2018.

Bhanpuri et al. *Cardiovascular Diabetology*, 2018.

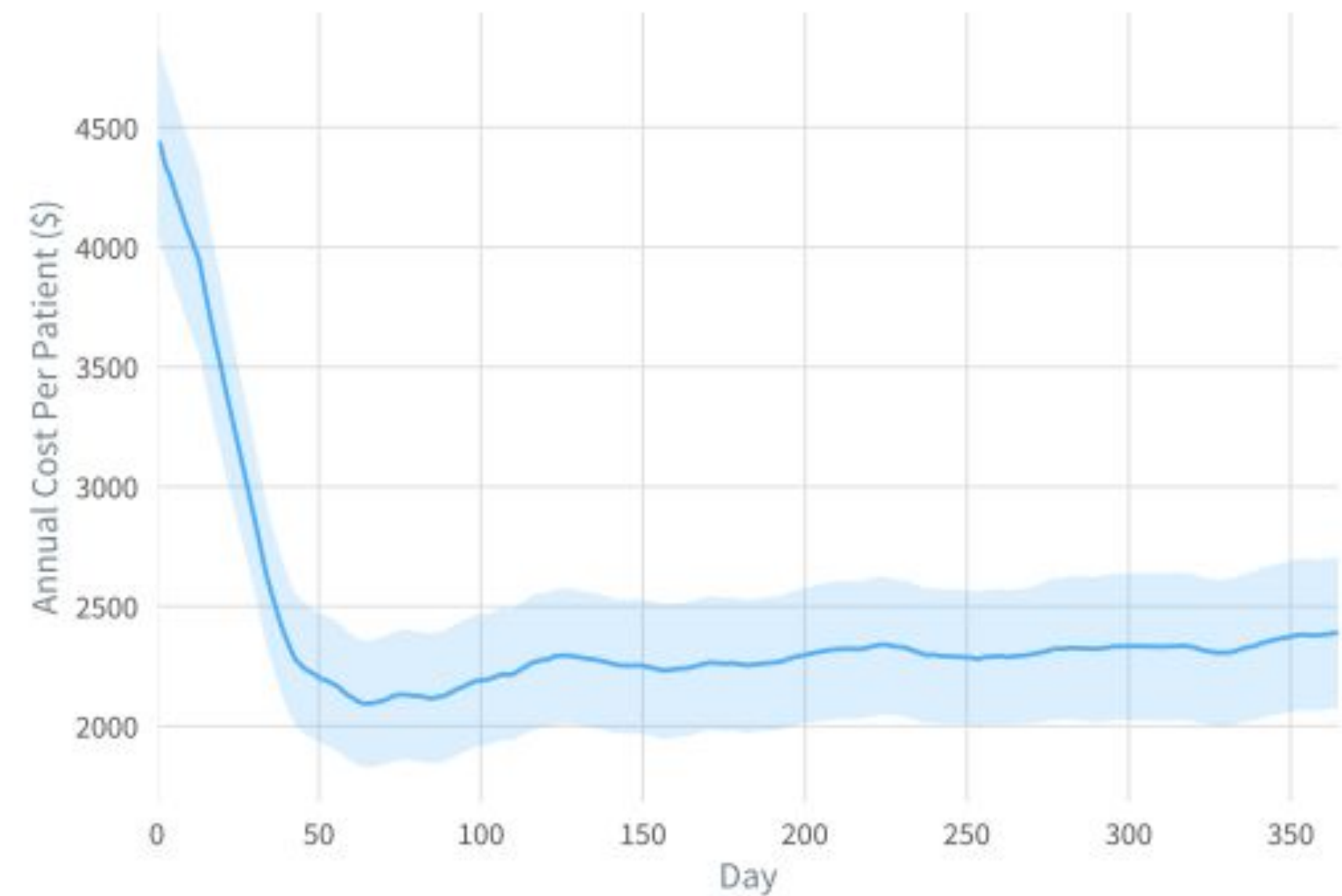
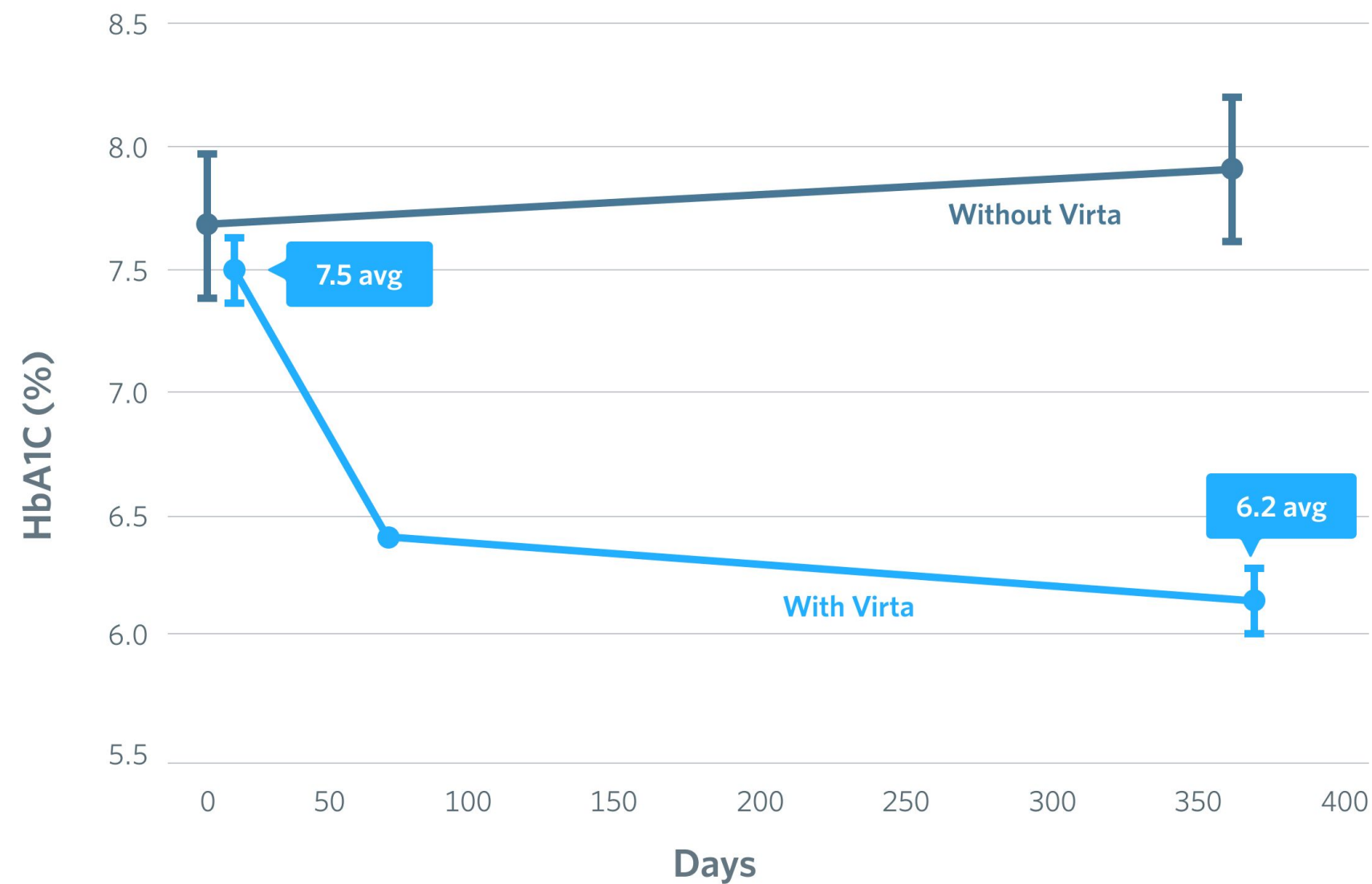


**virta**

# HbA1c reduced profoundly while removing medications

Virta

Usual Care



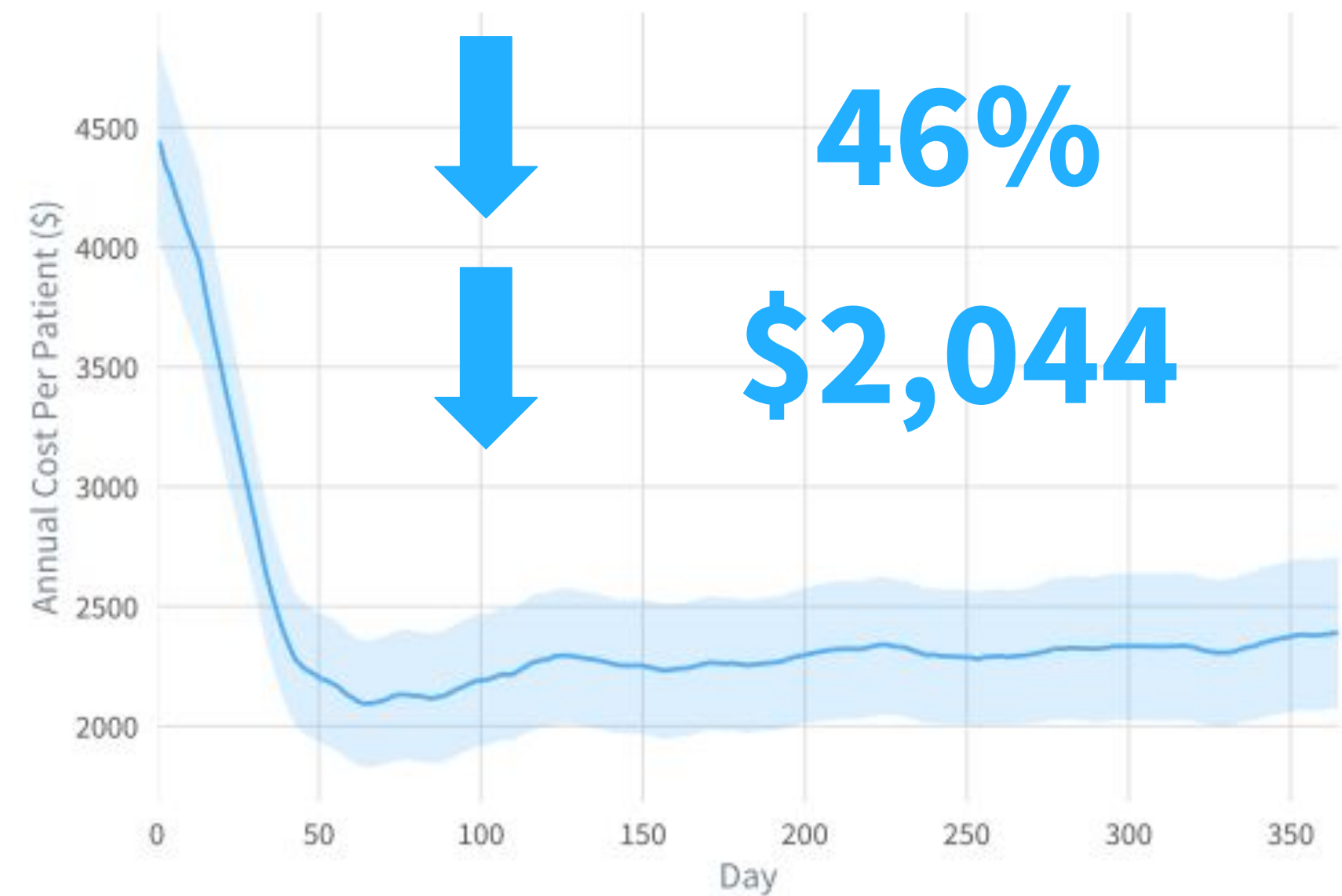
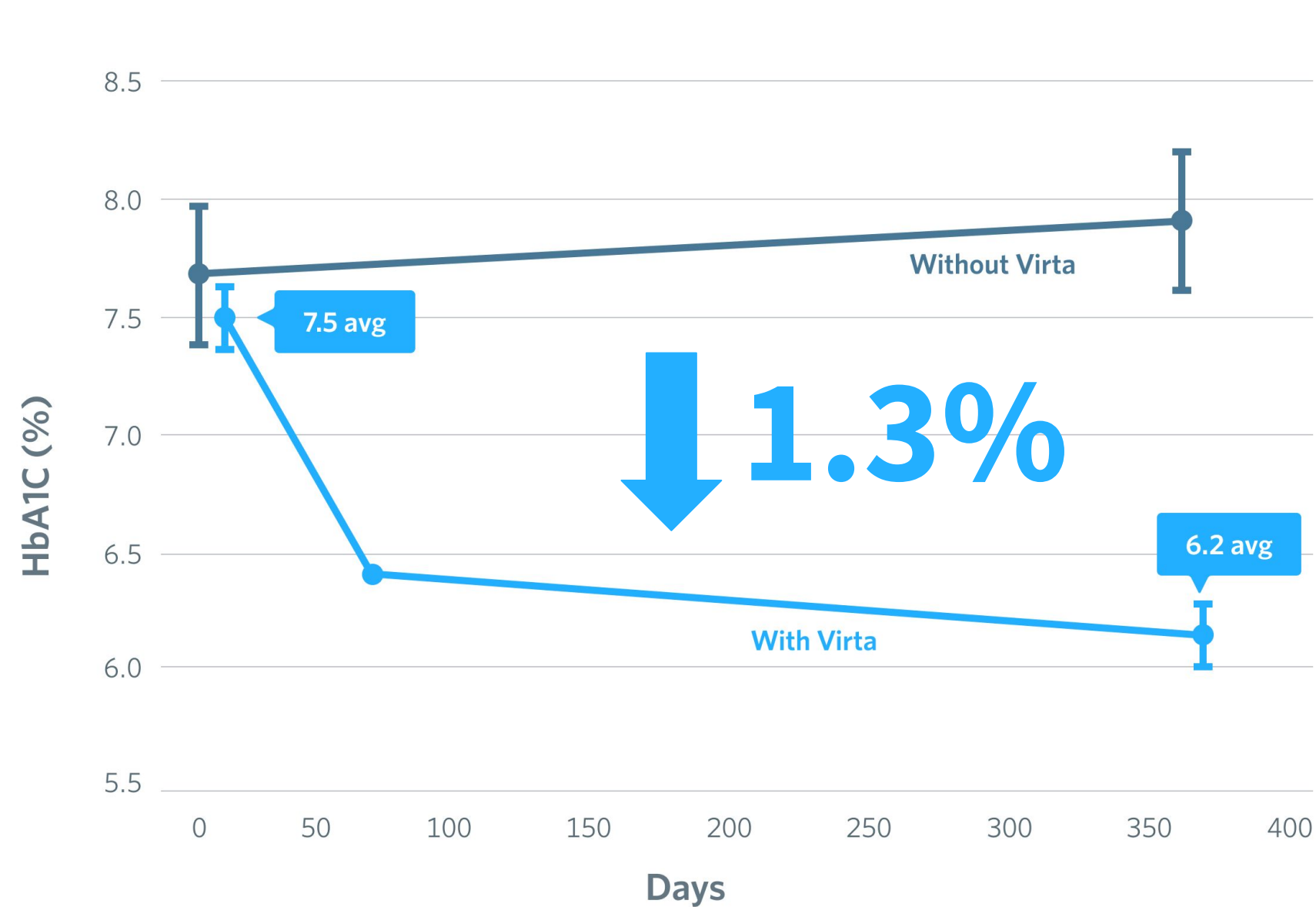
Source: IU Health Arnett - Virta Clinical Trial Data, n=204 Virta, n=72 Usual Care - all with diagnosed T2 diabetes  
Note: Prospective observational study with independently recruited Virta Clinic and usual care arms without randomization. Study arms were recruited from the same geography and have similar baseline characteristics including starting A1c and duration of diabetes.



# HbA1c reduced profoundly while removing medications

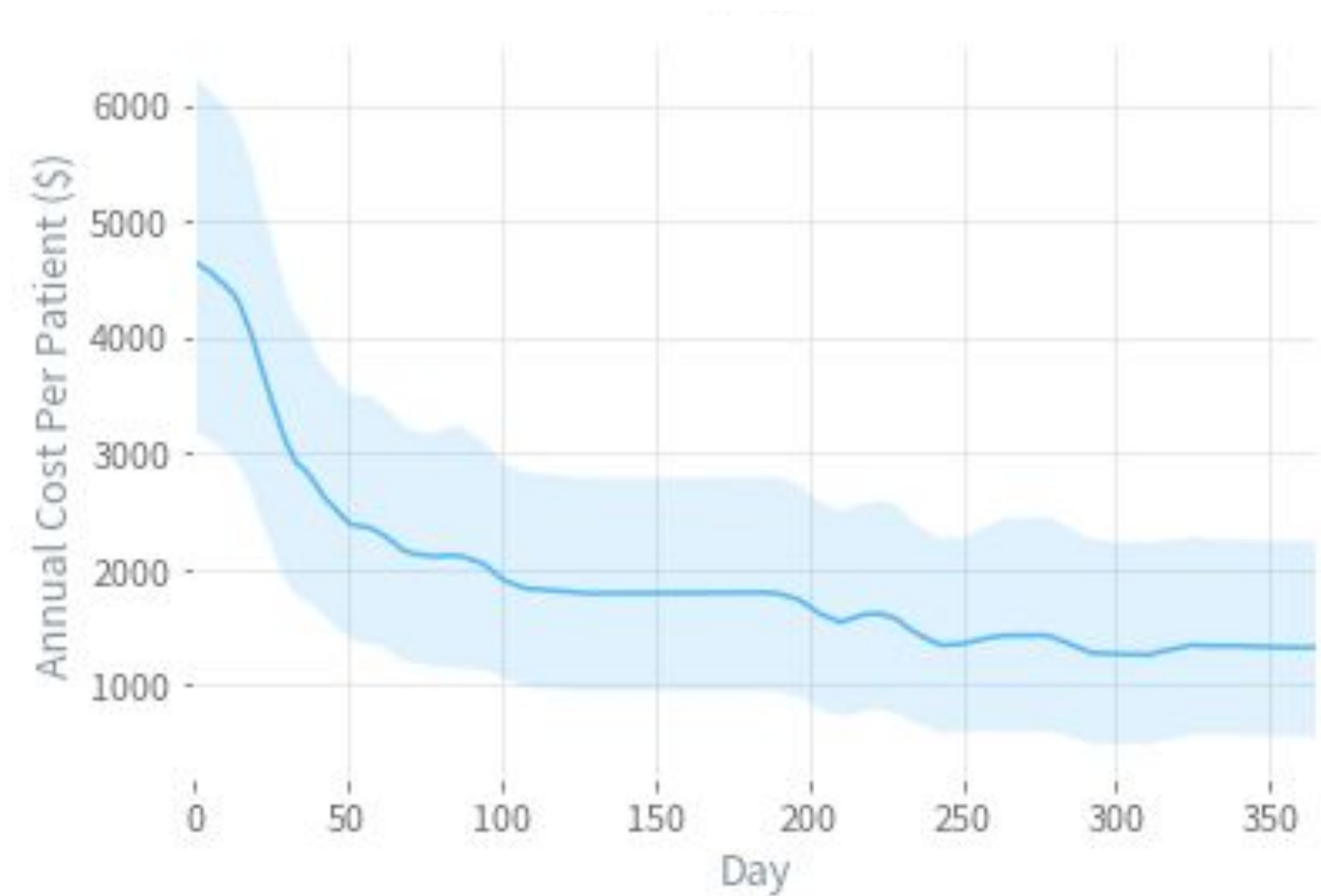
Virta

Usual Care



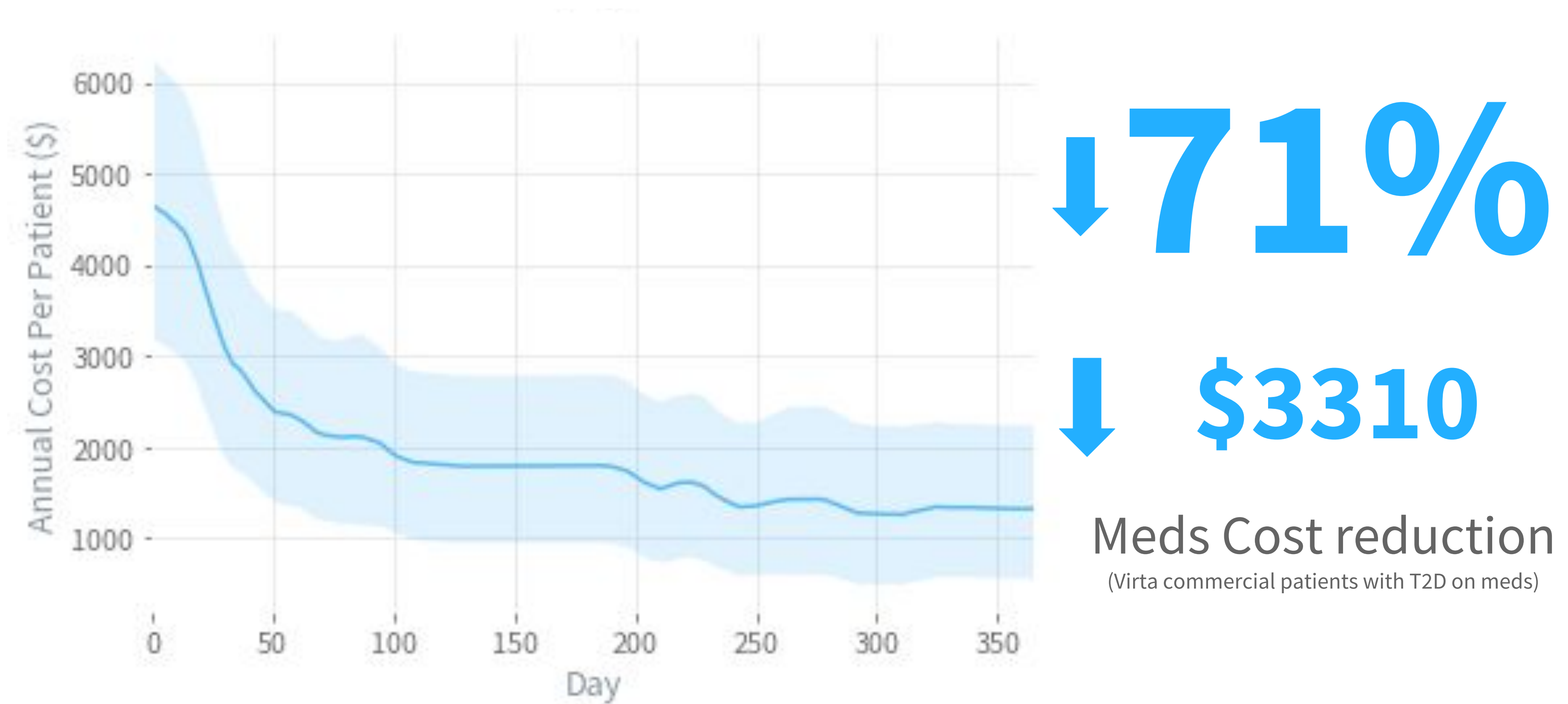
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# In Commercial populations, even more dramatic drug cost savings

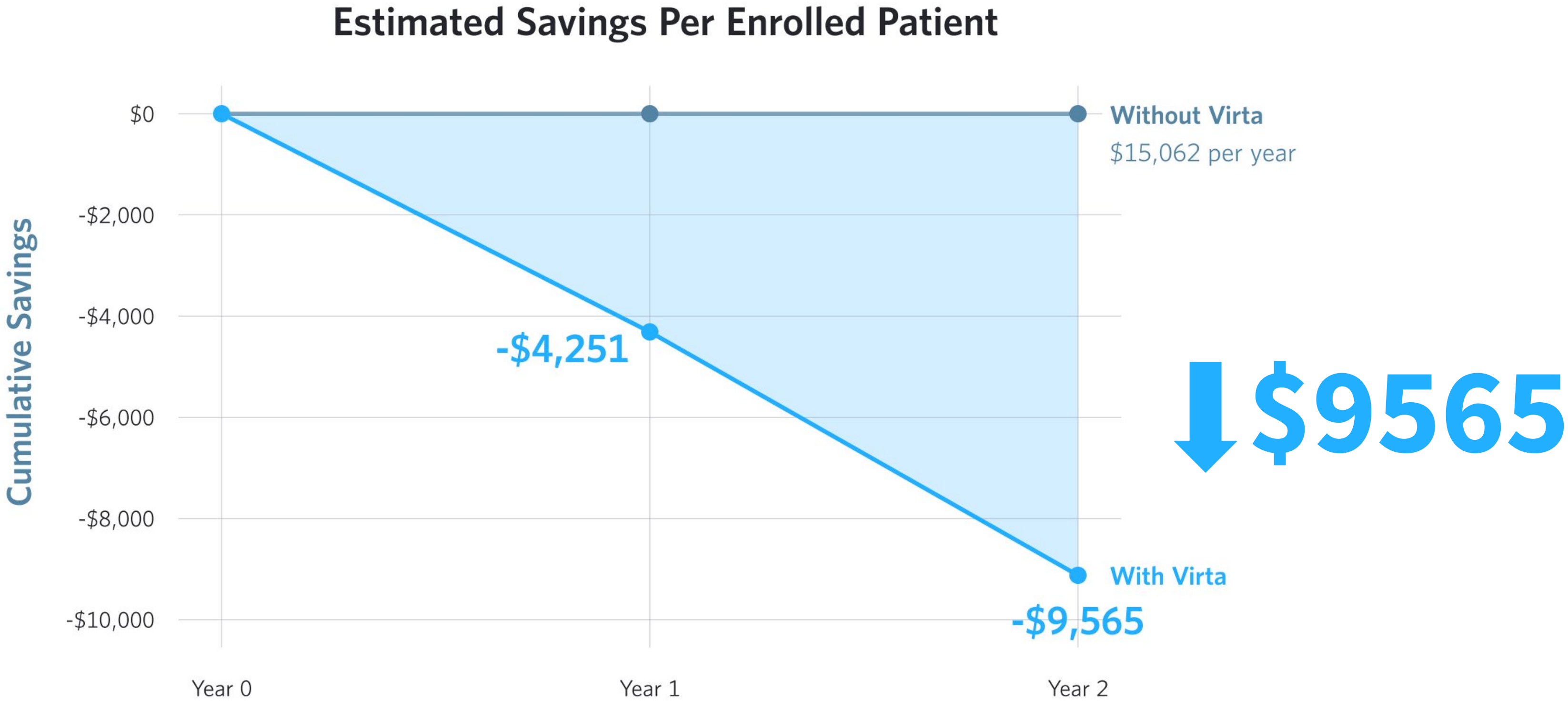


Meds Cost reduction  
(Virta commercial patients with T2D on meds)

# In Commercial populations, even more dramatic drug cost savings

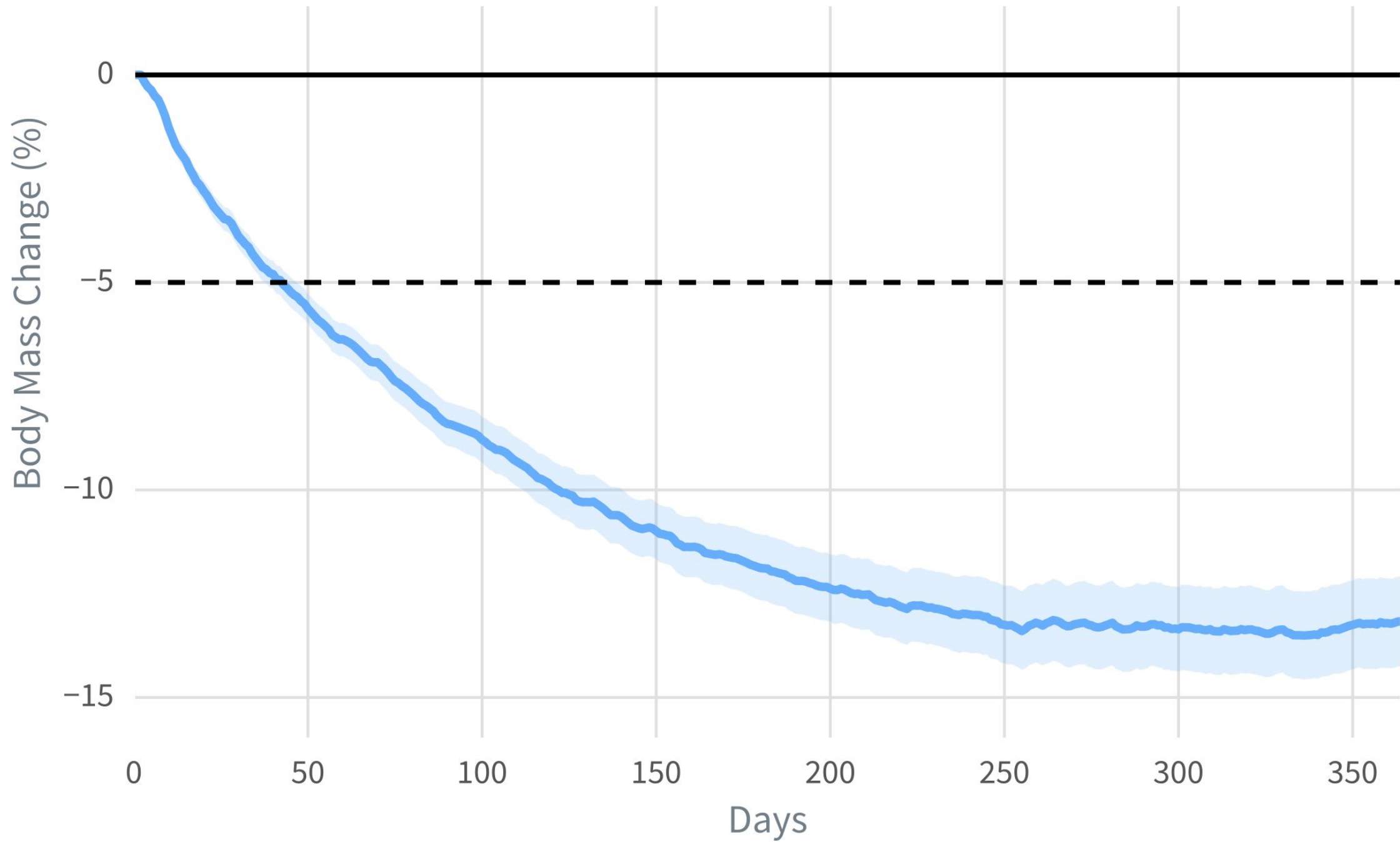


# Per Patient Average Medical Cost Savings alone Nearly \$10,000 in first 2 years<sup>1</sup>



<sup>1</sup>Does not include consideration of Virta fees  
Virta internal analysis - Economic Impact Model built using Virta clinical results and published estimates of medical & pharmacy costs by A1c level and BMI from [Li et. al., The Economic Burden of Obesity by Glycemic Stage in the United States; PharmacoEconomics \(2015\) 33:735–748; publication pending](#)

# Clinical Trial Outcomes - Weight Loss Averaged 12%, Sustained At 1 Year



86% of patients lost > 5%  
61% of patients lost > 10%

Intent-to-treat  
 $P < 1.0 \times 10^{-16}$

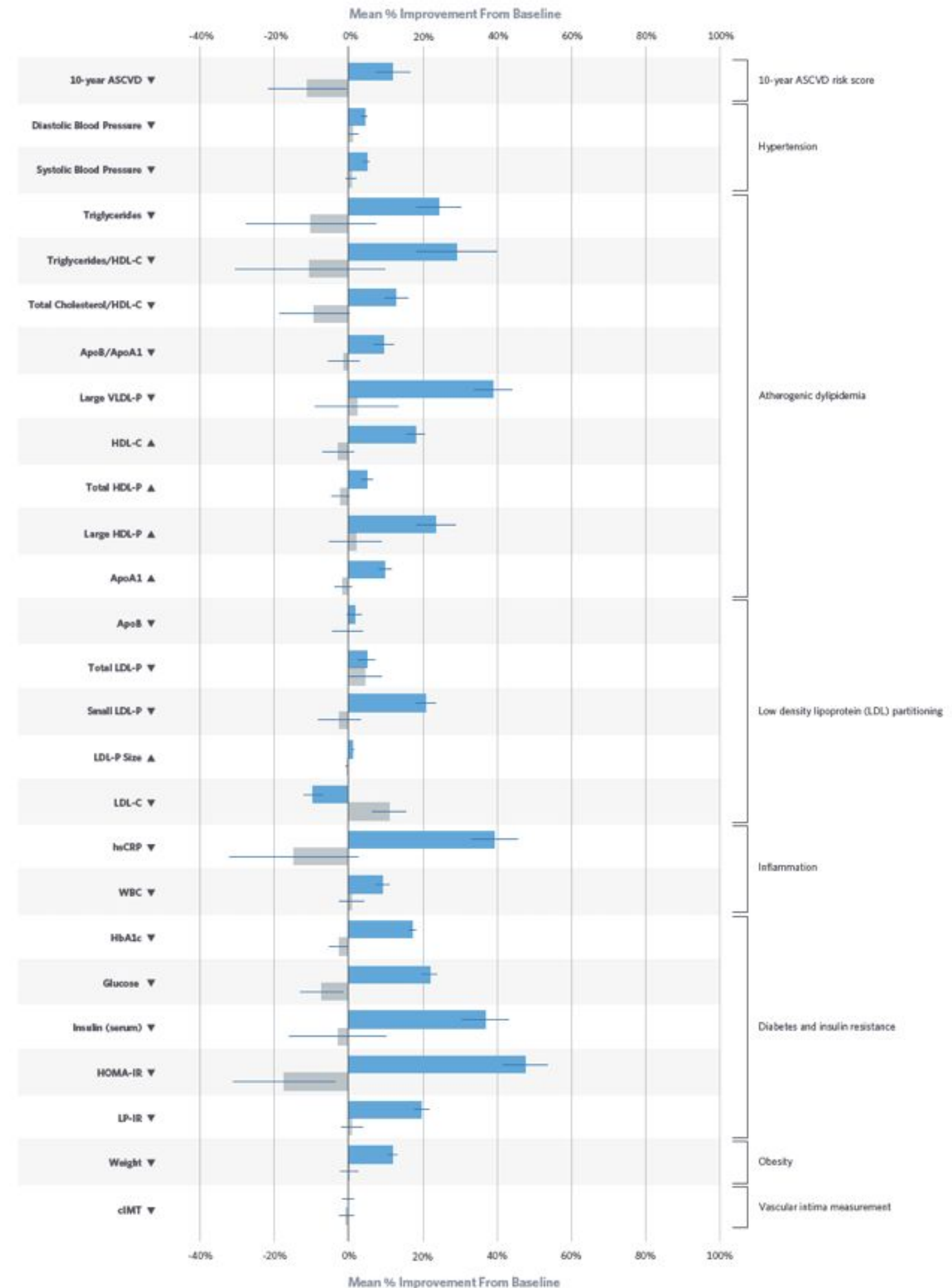
Hallberg SJ, et al. *Diabetes Therapy*, 2018.



Examining all available  
cardiovascular risk biomarkers,  
**22 of 26 in Virta Treatment**  
show statistically  
significant improvement versus  
**0 of 26 for Usual Care**

Intent-to-treat  
For 22 significant changes  
 $P < 0.0019$

Hallberg et al. *Diabetes Therapy*, 2018.  
Bhanpuri et al. *Cardiovascular Diabetology*, 2018.



**Virta**  
**Usual Care**

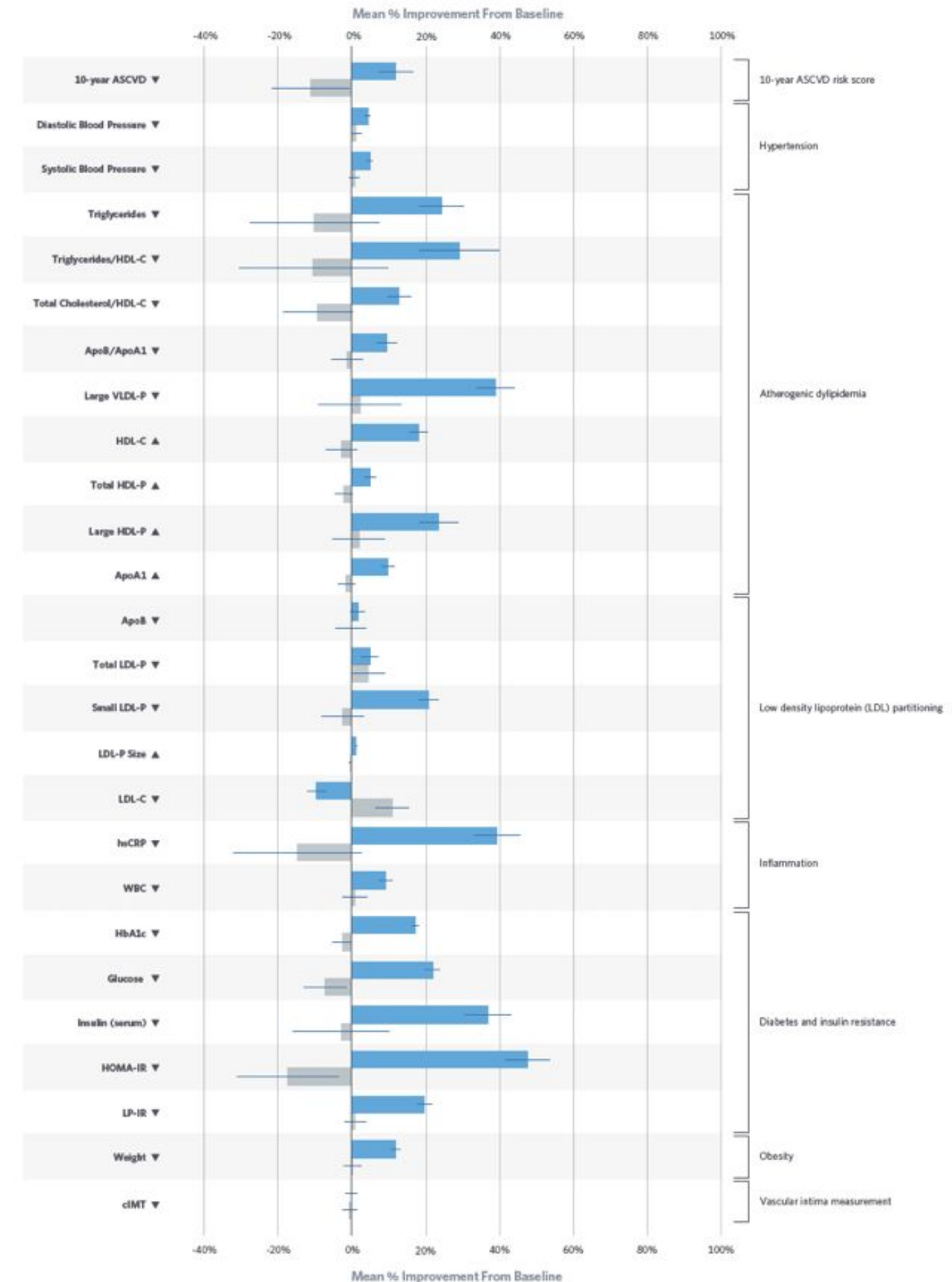
Examining all available cardiovascular risk biomarkers,  
**22 of 26 in Virta Treatment**  
 show statistically significant improvement versus  
**0 of 26 for Usual Care**

*including*

- *hypertension*
- *atherogenic dyslipidemia*
- *fatty liver disease*
- *chronic inflammation*

Intent-to-treat  
 For 22 significant changes  
 $P < 0.0019$

Hallberg et al. *Diabetes Therapy*, 2018.  
 Bhanpuri et al. *Cardiovascular Diabetology*, 2018.



**Virta**  
**Usual Care**



# Papers Published on 70 day and 1 yr T2D & CVD Outcomes

Diabetes Ther  
<https://doi.org/10.1007/s13300-018-0373-9>



## ORIGINAL RESEARCH

### Effectiveness and Safety of a Novel Care Model for the Management of Type 2 Diabetes at 1 Year: An Open-Label, Non-Randomized, Controlled Study

Sarah J. Hallberg · Amy L. McKenzie · Paul T. Williams ·  
Nasir H. Bhanpuri · Anne L. Peters · Wayne W. Campbell · Tamara L. Hazbun ·  
Brittanie M. Volk · James P. McCarter · Stephen D. Phinney ·  
Jeff S. Volek

Received: December 28, 2017  
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#### ABSTRACT

**Introduction:** Carbohydrate restriction markedly improves glycemic control in patients with type 2 diabetes (T2D) but necessitates prompt medication changes. Therefore, we assessed the effectiveness and safety of a novel care model providing continuous remote care with medication management based on biometric feedback combined with the metabolic approach of nutritional ketosis for T2D management.

**Enhanced content** To view enhanced content for this article go to <https://doi.org/10.6084/m9.figshare.5803119>.

**Electronic supplementary material** The online version of this article (<https://doi.org/10.1007/s13300-018-0373-9>) contains supplementary material, which is available to authorized users.

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Medically Supervised Weight Loss, Indiana  
University Health Amet, Lafayette, IN, USA

S. J. Hallberg · A. L. McKenzie (✉) ·  
N. H. Bhanpuri · B. M. Volk · J. P. McCarter ·  
S. D. Phinney · J. S. Volek  
Virta Health, San Francisco, CA, USA  
e-mail: amy@virtahealth.com

P. T. Williams  
Independent Consultant, Lafayette, CA, USA

A. L. Peters  
Reck School of Medicine, University of Southern  
California, Los Angeles, CA, USA

**Methods:** We conducted an open-label, non-randomized, controlled, before-and-after 1-year study of this continuous care intervention (CCI) and usual care (UC). Primary outcomes were glycosylated hemoglobin (HbA<sub>1c</sub>), weight, and medication use. Secondary outcomes included fasting serum glucose and insulin, HOMA-IR, blood lipids and lipoproteins, liver and kidney function markers, and high-sensitivity C-reactive protein (hsCRP).

**Results:** 349 adults with T2D enrolled: CCI:  $n = 262$  [mean (SD): 54 (8) years, 116.5 (25.9) kg, 40.4 (8.8) kg m<sup>2</sup>, 92% obese, 88% prescribed T2D medication]; UC:  $n = 87$  (52 (10) years, 105.6 (22.15) kg, 36.72 (7.26) kg m<sup>2</sup>, 82% obese, 87% prescribed T2D medication). 218 participants (83%) remained enrolled in the CCI at 1 year. Intention-to-treat analysis of the CCI (mean ± SE) revealed HbA<sub>1c</sub> declined from

W. W. Campbell  
Department of Nutrition Science, Purdue  
University, West Lafayette, IN, USA

J. P. McCarter  
Department of Genetics, Washington University  
School of Medicine, St. Louis, MO, USA

J. S. Volek  
Department of Human Sciences, The Ohio State  
University, Columbus, OH, USA

Bhanpuri et al. *Cardiovasc Diabetol* (2018) 17:56  
<https://doi.org/10.1186/s12933-018-0698-8>

Cardiovascular Diabetology

## ORIGINAL INVESTIGATION

## Open Access



### Cardiovascular disease risk factor responses to a type 2 diabetes care model including nutritional ketosis induced by sustained carbohydrate restriction at 1 year: an open label, non-randomized, controlled study

Nasir H. Bhanpuri<sup>1\*</sup>, Sarah J. Hallberg<sup>1,2</sup>, Paul T. Williams<sup>3</sup>, Amy L. McKenzie<sup>1</sup>, Kevin D. Ballard<sup>4</sup>,  
Wayne W. Campbell<sup>5</sup>, James P. McCarter<sup>1,6</sup>, Stephen D. Phinney<sup>7</sup> and Jeff S. Volek<sup>1,7</sup>

#### Abstract

**Background:** Cardiovascular disease (CVD) is a leading cause of death among adults with type 2 diabetes mellitus (T2D). We recently reported that glycemic control in patients with T2D can be significantly improved through a continuous care intervention (CCI) including nutritional ketosis. The purpose of this study was to examine CVD risk factors in this cohort.

**Methods:** We investigated CVD risk factors in patients with T2D who participated in a 1 year open label, non-randomized, controlled study. The CCI group ( $n = 262$ ) received treatment from a health coach and medical provider. A usual care (UC) group ( $n = 87$ ) was independently recruited to track customary T2D progression. Circulating biomarkers of cholesterol metabolism and inflammation, blood pressure (BP), carotid intima media thickness (cIMT), multi-factorial risk scores and medication use were examined. A significance level of  $P < 0.0019$  ensured two-tailed significance at the 5% level when Bonferroni adjusted for multiple comparisons.

**Results:** The CCI group consisted of 262 participants (baseline mean (SD): age 54 (8) year, BMI 40.4 (8.8) kg m<sup>-2</sup>). Intention-to-treat analysis (% change) revealed the following at 1-year: total LDL-particles (LDL-P) ( $-4.9\%$ ,  $P = 0.02$ ), small LDL-P ( $-20.8\%$ ,  $P = 1.2 \times 10^{-12}$ ), LDL-P size ( $+1.1\%$ ,  $P = 6.0 \times 10^{-10}$ ), ApoB ( $-1.6\%$ ,  $P = 0.37$ ), ApoA1 ( $+9.8\%$ ,  $P < 10^{-16}$ ), ApoB/ApoA1 ratio ( $-9.5\%$ ,  $P = 1.9 \times 10^{-7}$ ), triglyceride/HDL-C ratio ( $-29.1\%$ ,  $P < 10^{-16}$ ), large VLDL-P ( $-38.9\%$ ,  $P = 4.2 \times 10^{-15}$ ), and LDL-C ( $+9.9\%$ ,  $P = 4.9 \times 10^{-3}$ ). Additional effects were reductions in blood pressure, high sensitivity C-reactive protein, and white blood cell count (all  $P < 1 \times 10^{-7}$ ) while cIMT was unchanged. The 10-year atherosclerotic cardiovascular disease (ASCVD) risk score decreased  $-11.9\%$  ( $P = 4.9 \times 10^{-5}$ ). Antihypertensive medication use was discontinued in 11.4% of CCI participants ( $P = 5.3 \times 10^{-3}$ ). The UC group of 87 participants (baseline mean (SD): age 52 (10) year, BMI 36.7 (7.2) kg m<sup>-2</sup>) showed no significant changes. After adjusting for baseline differences when comparing CCI and UC groups, significant improvements for the CCI group included small LDL-P, ApoA1, triglyceride/HDL-C ratio, HDL-C, hsCRP, and LP-IR score in addition to other biomarkers that were previously reported. The CCI group showed a greater rise in LDL-C.

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<sup>1</sup>Virta Health, San Francisco, CA, USA

Full list of author information is available at the end of the article



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JMIR DIABETES

McKenzie et al

#### Original Paper

### A Novel Intervention Including Individualized Nutritional Recommendations Reduces Hemoglobin A1c Level, Medication Use, and Weight in Type 2 Diabetes

Amy L. McKenzie<sup>1</sup>, PhD; Sarah J Hallberg<sup>1,2</sup>, DO, MS; Brent C Creighton<sup>1</sup>, PhD; Brittanee M Volk<sup>1</sup>, RD, PhD; Theresa M Link<sup>1</sup>, RD, CDE; Marcy K Abner<sup>1</sup>, RD; Roberta M Glon<sup>1</sup>, RN, BSN; James P McCarter<sup>1</sup>, MD, PhD; Jeff S Volek<sup>1</sup>, RD, PhD; Stephen D Phinney<sup>1</sup>, MD, PhD

<sup>1</sup>Virta Health, San Francisco, CA, United States

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#### Abstract

**Background:** Type 2 diabetes (T2D) is typically managed with a reduced fat diet plus glucose-lowering medications, the latter often promoting weight gain.

**Objective:** We evaluated whether individuals with T2D could be taught by either on-site group or remote means to sustain adequate carbohydrate restriction to achieve nutritional ketosis as part of a comprehensive intervention, thereby improving glycemic control, decreasing medication use, and allowing clinically relevant weight loss.

**Methods:** This study was a nonrandomized, parallel arm, outpatient intervention. Adults with T2D ( $N = 262$ ; mean age 54, SD 8, years, mean body mass index 41, SD 8, kg m<sup>-2</sup>, 66.8% (175/262) women) were enrolled in an outpatient protocol providing intensive nutrition and behavioral counseling, digital coaching and education platform, and physician-guided medication management. A total of 238 participants completed the first 10 weeks. Body weight, capillary blood glucose, and beta-hydroxybutyrate (BOHB) levels were recorded daily using a mobile interface. Hemoglobin A<sub>1c</sub> (HbA<sub>1c</sub>) and related biomarkers of T2D were evaluated at baseline and 10-week follow-up.

**Results:** Baseline HbA<sub>1c</sub> level was 7.6% (SD 1.5%) and only 52/262 (19.8%) participants had an HbA<sub>1c</sub> level of <6.5%. After 10 weeks, HbA<sub>1c</sub> level was reduced by 1.0% (SD 1.1%; 95% CI 0.9% to 1.1%,  $P < .001$ ), and the percentage of individuals with an HbA<sub>1c</sub> level of <6.5% increased to 56.1% (147/262). The majority of participants (234/262, 89.3%) were taking at least one diabetes medication at baseline. By 10 weeks, 133/234 (56.8%) individuals had one or more diabetes medications reduced or eliminated. At follow-up, 47.7% of participants (125/262) achieved an HbA<sub>1c</sub> level of <6.5% while taking metformin only ( $n = 86$ ) or no diabetes medications ( $n = 39$ ). Mean body mass reduction was 7.2% (SD 3.7%; 95% CI 5.8% to 7.7%,  $P < .001$ ) from baseline (117, SD 26, kg). Mean BOHB over 10 weeks was 0.6 (SD 0.6) mmol L<sup>-1</sup> indicating consistent carbohydrate restriction. Post hoc comparison of the remote versus on-site means of education revealed no effect of delivery method on change in HbA<sub>1c</sub> ( $F_{1,260} = 1.503$ ,  $P = .22$ ).

**Conclusions:** These initial results indicate that an individualized program delivered and supported remotely that incorporates nutritional ketosis can be highly effective in improving glycemic control and weight loss in adults with T2D while significantly decreasing medication use.

(*JMIR Diabetes* 2017;2(1):e5) doi:10.2196/diabetes.6981

<http://diabetes.jmir.org/2017/1/e5/>

JMIR Diabetes 2017 | vol. 2 | iss. 1 | e5 | p. 1  
(page number not for citation purposes)

Papers submitted or in progress on 1 yr NAFLD/NASH, 1 yr sleep, 2 yr T2D, 2 yr Pre-D, etc.

FOR TODAY

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High Level Context

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Outcomes

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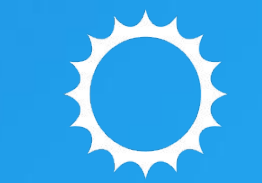
**Patient Experience**

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Enterprise Experience

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Conclusion



**virta**

# Virta's Practice - Two Key Pillars





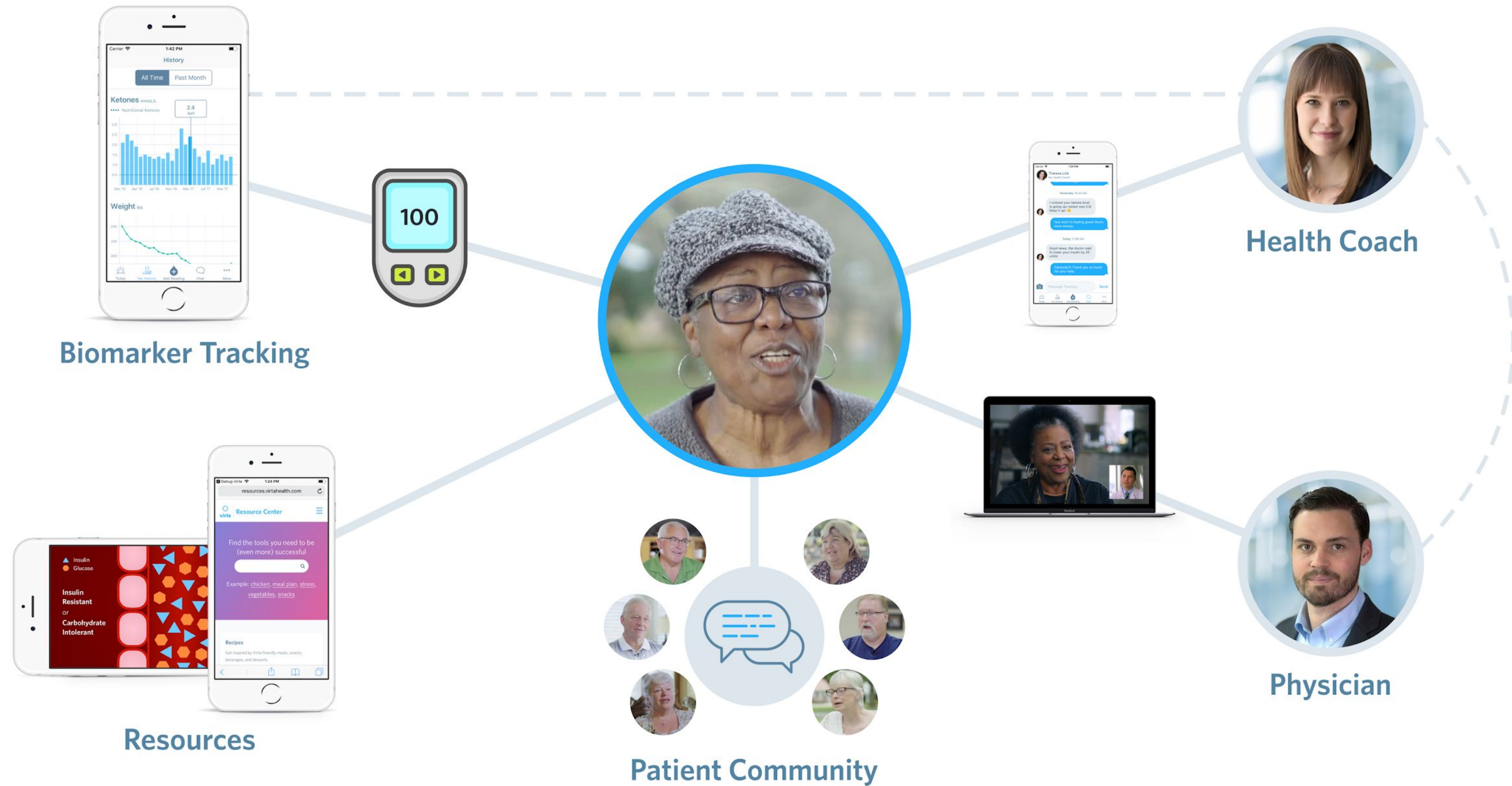
# Virta's Practice - Two Key Pillars



## Continuous Remote Care

Telemedicine platform for ‘in your pocket’, personalized physician and coach care

# Virta's Continuous Remote Care Platform

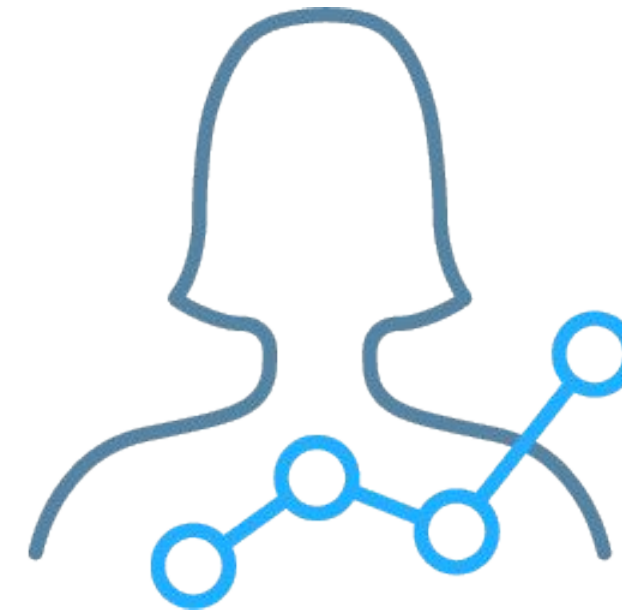


# Virta's Practice - Two Key Pillars



## Continuous Remote Care

Telemedicine platform for 'in your pocket', personalized physician and coach care

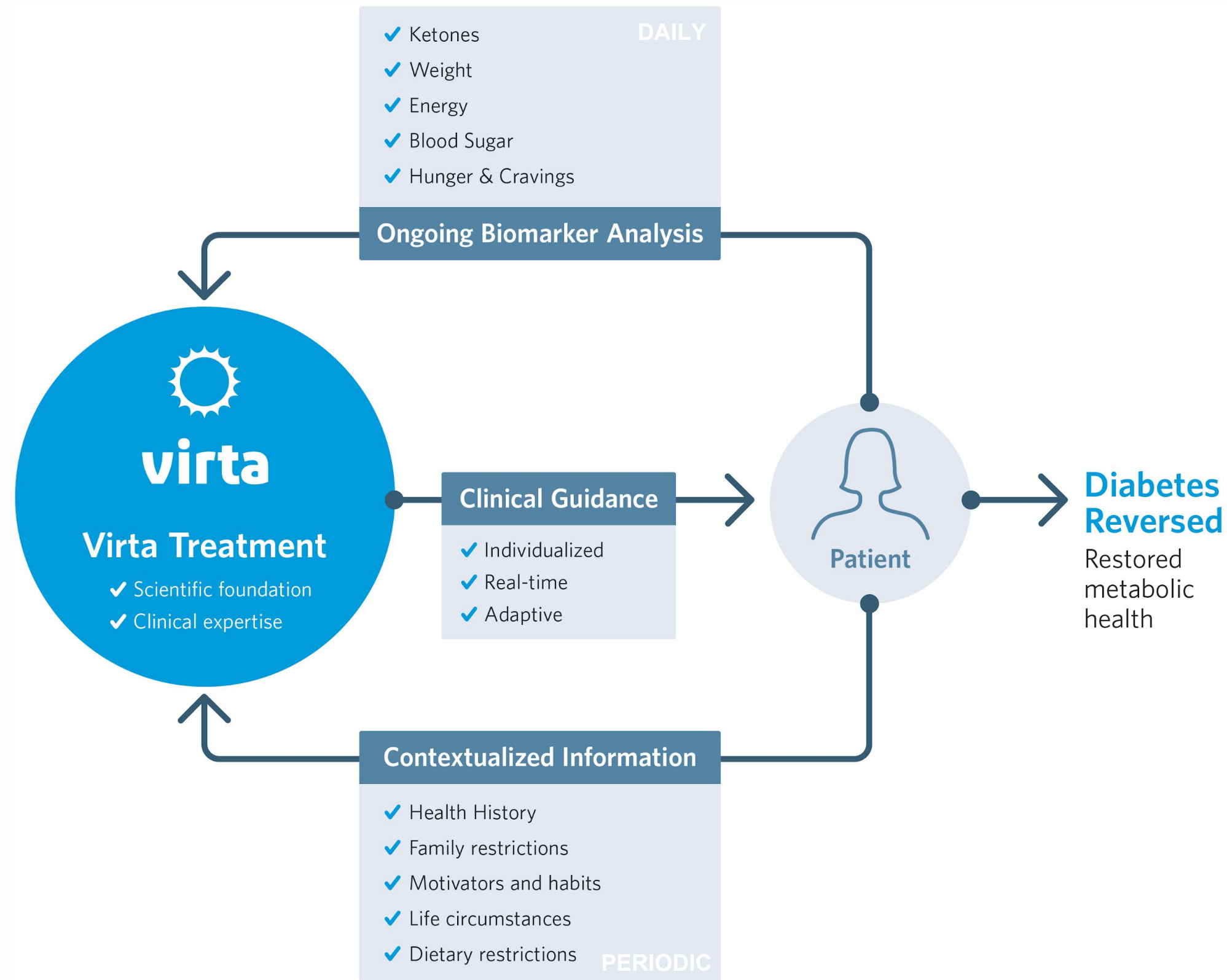


## Proprietary Virta Protocol

Med Management and Patient lifestyle guidance, with a focus on nutritional ketosis



# Individualized protocol behind Virta Treatment is very complex and can only be delivered with data and software at scale



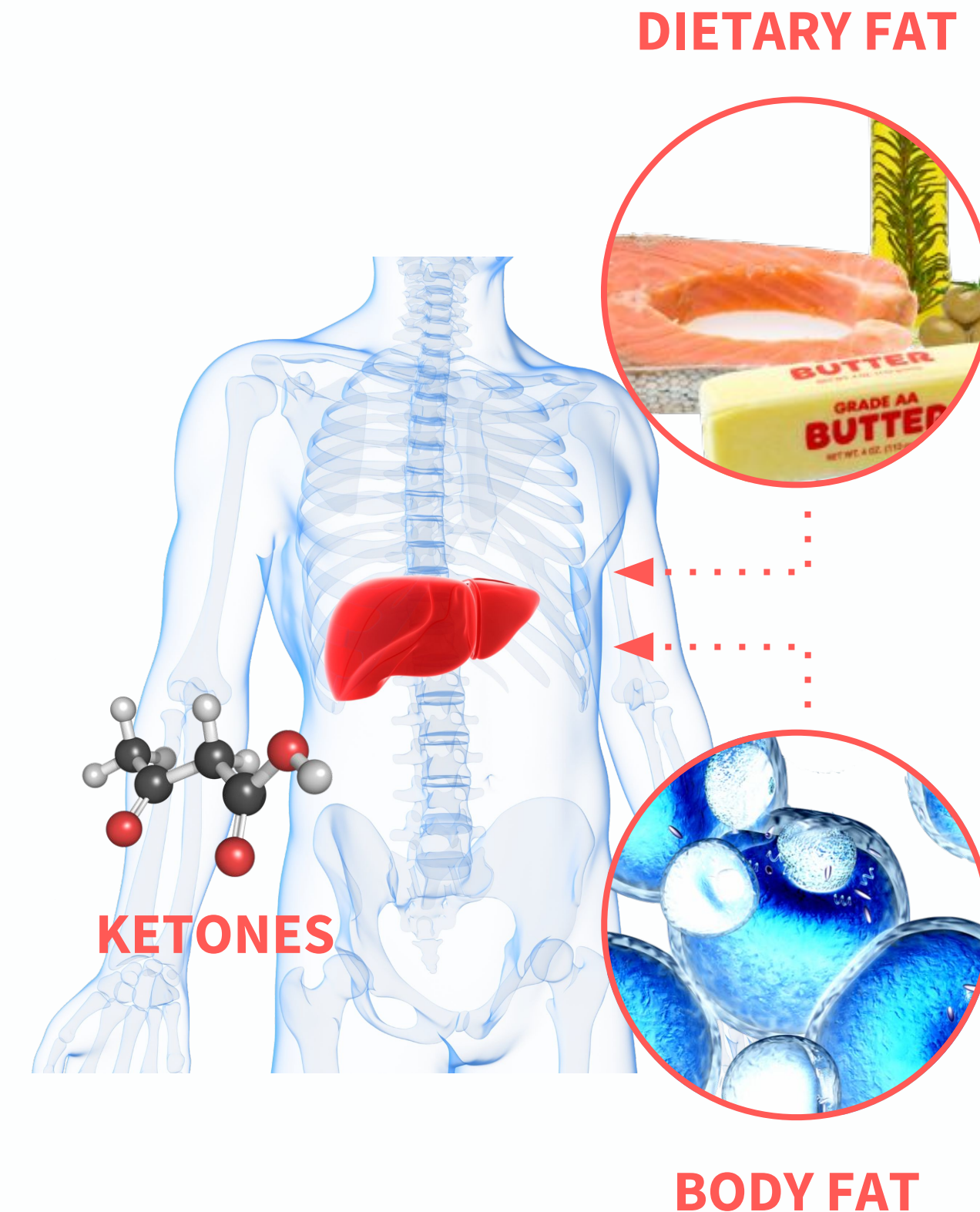


# What is nutritional ketosis and why is it beneficial?

- Nutritional ketosis is a metabolic state in which the body is predominantly fueled by fats from diet or body fat
- Ketone bodies are natural products of liver metabolism & preferred fuel for the brain
- Ketone bodies increase when dietary carbohydrates are limited to < 30 g/day with moderate protein

*Benefits of ketosis arise from ...*

- Alternative energy source with decreased reliance on glucose/insulin “rollercoaster”
- Hormonal properties of ketones reduce inflammation & oxidative stress





# Nutritional Ketosis - Individualized Guidance

Carb restriction to achieve  
nutritional ketosis (initially 30 grams)

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Highly personalized  
(socio-economic, cultural, religious)

---

Education & problem solving,  
not meal delivery/replacement

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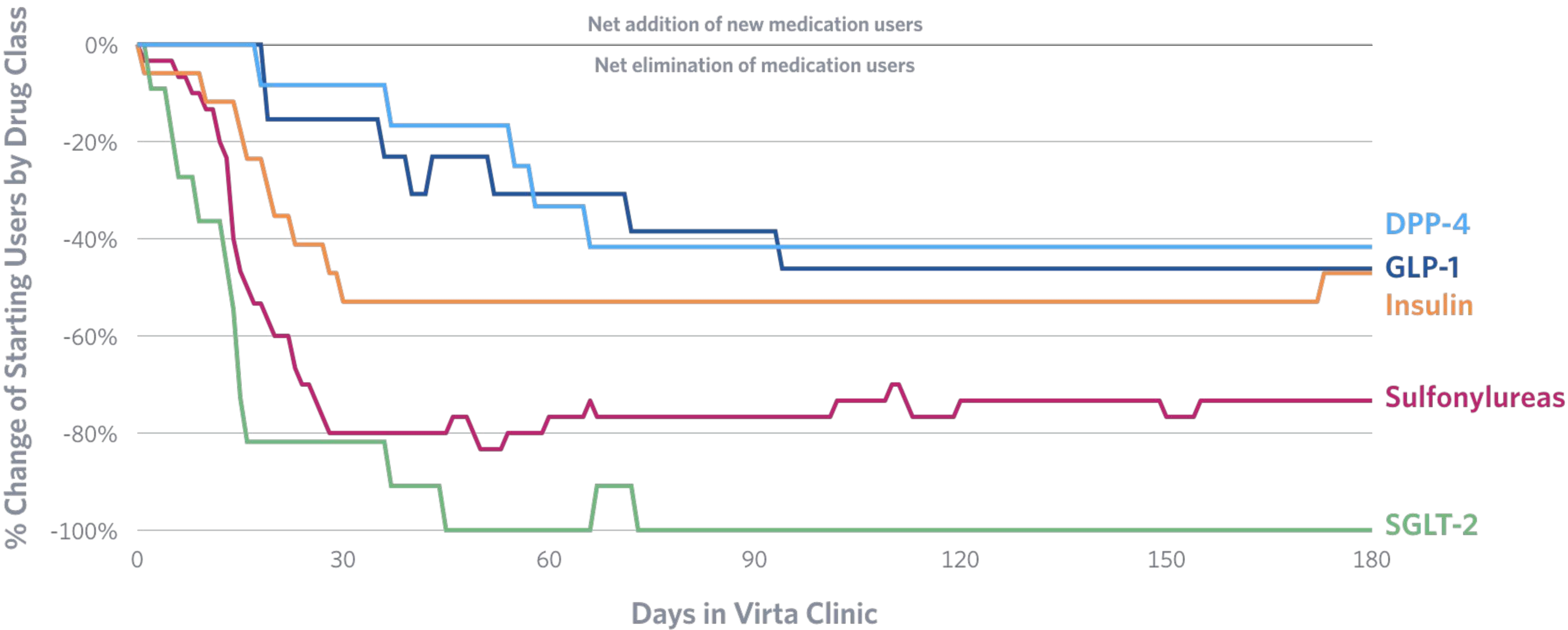
Eat delicious, real foods  
until satisfied, no calorie counting

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# Commercial Outcomes - Medication Reductions are Individualized and Rapid

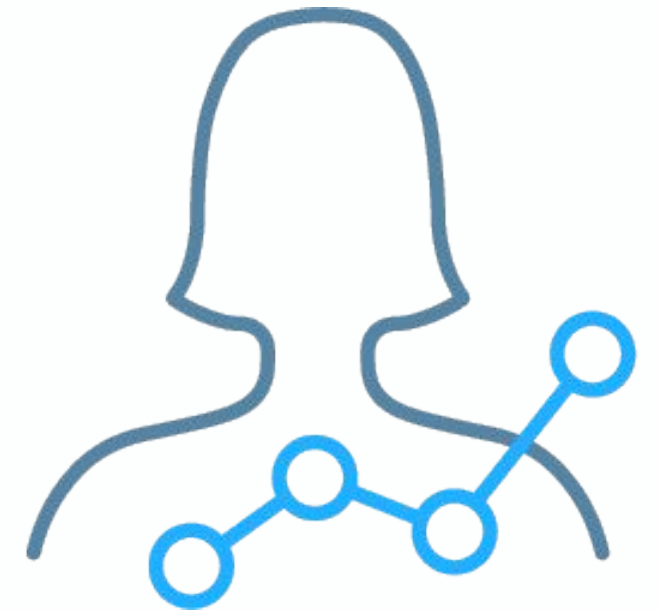
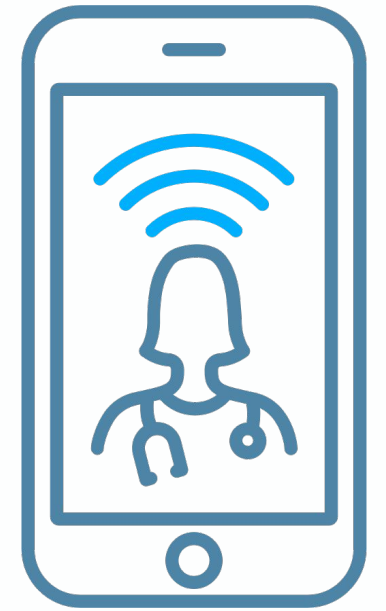


Graph depicts the change from baseline in percent of medication users by class over time. Negative values on y axis indicate a net elimination of medication users; positive values indicate a net addition of new medication users.

**Source:** Virta Health Registry for Remote Care of Chronic Conditions, enterprise patients with type 2 diabetes, outcomes as of May 31, 2018. Excludes metformin as it is recommended for treatment of prediabetes and in conditions such as PCOS. Not patient was prescribed a thiazolidinedione.

# Are the Virta Treatment outcomes sustainable?

- The Virta treatment is aimed at lifelong changes in nutrition and behavior. (Patients can stay under Virta's care long-term.)
- The Virta-IUH clinical trial has been extended to five years.
- Favorable two year results are in preparation for publication.
- Some patients enjoy staying in nutritional ketosis long-term.
- Some patients use improved insulin sensitivity to enjoy greater dietary flexibility while still staying generally on the lower spectrum of carbohydrate consumption.
- Virta is not a cure for diabetes and we do not advise a return to high carbohydrate consumption.



FOR TODAY

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High Level Context

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Outcomes

---

Patient Experience

---

**Enterprise Experience**

---

Conclusion





# Virta Patient Marketing

## Nielsen Launch: March 14, 2017

### Campaigns

- Newsletter email
- Direct mailers
- Text
- Posters
- Brochures

## Purdue Launch: April 10, 2017

### Campaigns

- Direct emails
- Direct mailers
- On-site events
- Posters
- Brochures

**Ditch your diabetes meds.**

Try Nielsen's new employee benefit for people with type 2 diabetes and prediabetes




Learn more at [virtahealth.com/nielsen](http://virtahealth.com/nielsen)

100% covered by Nielsen, at no cost to eligible employees and dependents with type 2 diabetes and prediabetes. See website for eligibility.

**Lose the diabetes and the weight.**

Average weight loss of 12% at six months\*





ROBIN, VIRTA PATIENT

Learn more at [virtahealth.com/nielsen](http://virtahealth.com/nielsen)

100% covered by Nielsen, at no cost to eligible employees and dependents with type 2 diabetes and prediabetes. See website for eligibility.

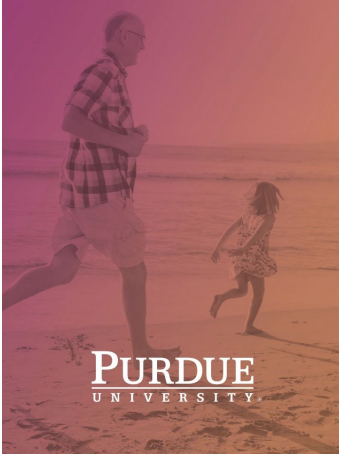
\*Based on preliminary Virta 6-month trial data





**virta**

Reduce your A1c and lose weight, without pharmaceuticals or surgery




**PURDUE UNIVERSITY**

**Groundbreaking Clinical Outcomes**

- 56% OF PATIENTS REDUCED THEIR A1C BELOW DIABETIC LEVEL<sup>1</sup>  
A1c below 6.5% at 70 days
- 12% WEIGHT LOSS AT 6 MONTHS<sup>2</sup>
- 87% OF PATIENTS REDUCED OR ELIMINATED INSULIN<sup>1</sup>

Amazing weight loss results after 6 months in the Virta Clinic









1 McKenzie AL, Hallberg SJ, Creighton BC, Volk BM, Link TM, Abner MK, Glon RM, McCarter JP, Noland JS, Pinnney SD. A Novel Intervention Including Individualized Nutritional Recommendations Reduces Hemoglobin A1c Level, Medication Use, and Weight in Type 2 Diabetes. JMR Diabetes. 2017;2(1):e5

2 Preliminary 6-month trial data

**The Virta Clinic**

Virta is the most effective treatment to reduce A1c and weight, without the risks, costs or side effects of medications or surgery.

-  **Physician supervision** to provide continuous monitoring and to safely adjust or eliminate medications.
-  **Dedicated health coaching** to support you with one-on-one guidance, feedback and accountability
-  **A personalized nutrition and care plan** that is continuously adjusted based on your body's response
-  **App and biomarker tracking tools** to give you on-demand access to your care team, a step-by-step care plan and real-time feedback
-  **Optional community of peers** for another source of validation, support and motivation, while offering helpful tips relevant to your local area



**Your Path to Success**


- 1 Health Screening
- 2 Meet with your Virta Physician
- 3 Meet your Health Coach
- 4 Start your Virta journey



**Get started**

Visit [virtahealth.com/nielsen](http://virtahealth.com/nielsen) or email [apply@virtahealth.com](mailto:apply@virtahealth.com)

**Eligibility**

Virta is available to associates, their spouses and adult dependents between the ages of 18 and 69 who are enrolled in a Nielsen health plan through UHC. This benefit is currently being offered to those with prediabetes and type 2 diabetes. There may be some out of pocket costs associated with participation in Virta. There are some serious medical conditions that would exclude patients from the program. Start the application process now to find out if you qualify.





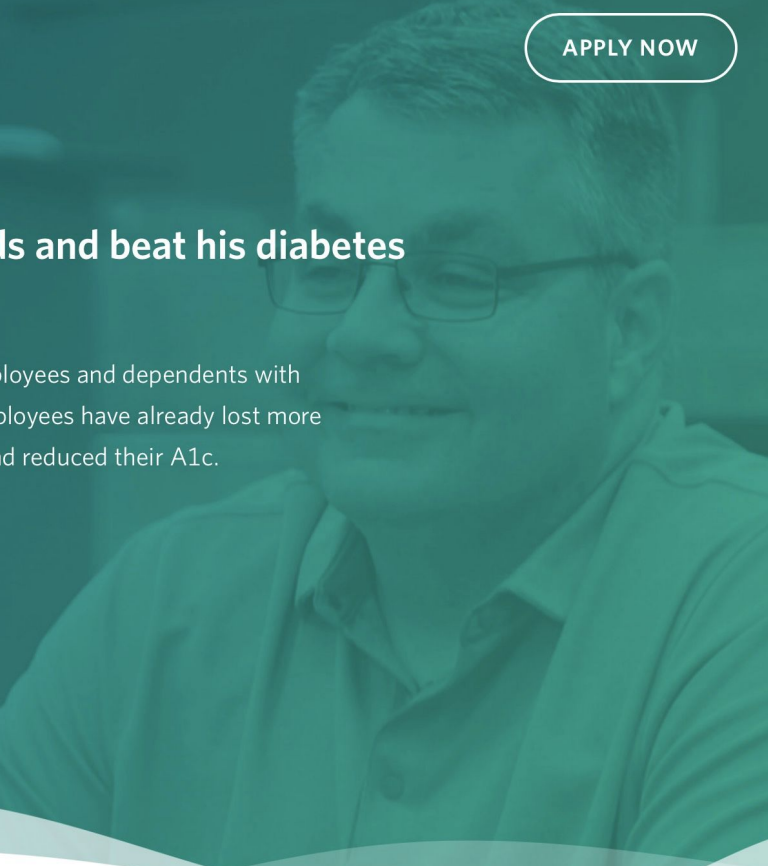
**APPLY NOW**

**Your coworker Scott lost 40 pounds and beat his diabetes on Virta - and now you can too!**

Purdue is fully covering the cost of Virta for eligible employees and dependents with type 2 diabetes and prediabetes.\* Over 300 Purdue employees have already lost more than 5,500 pounds, eliminated diabetic medications, and reduced their A1c.

**JOIN THE MOVEMENT**

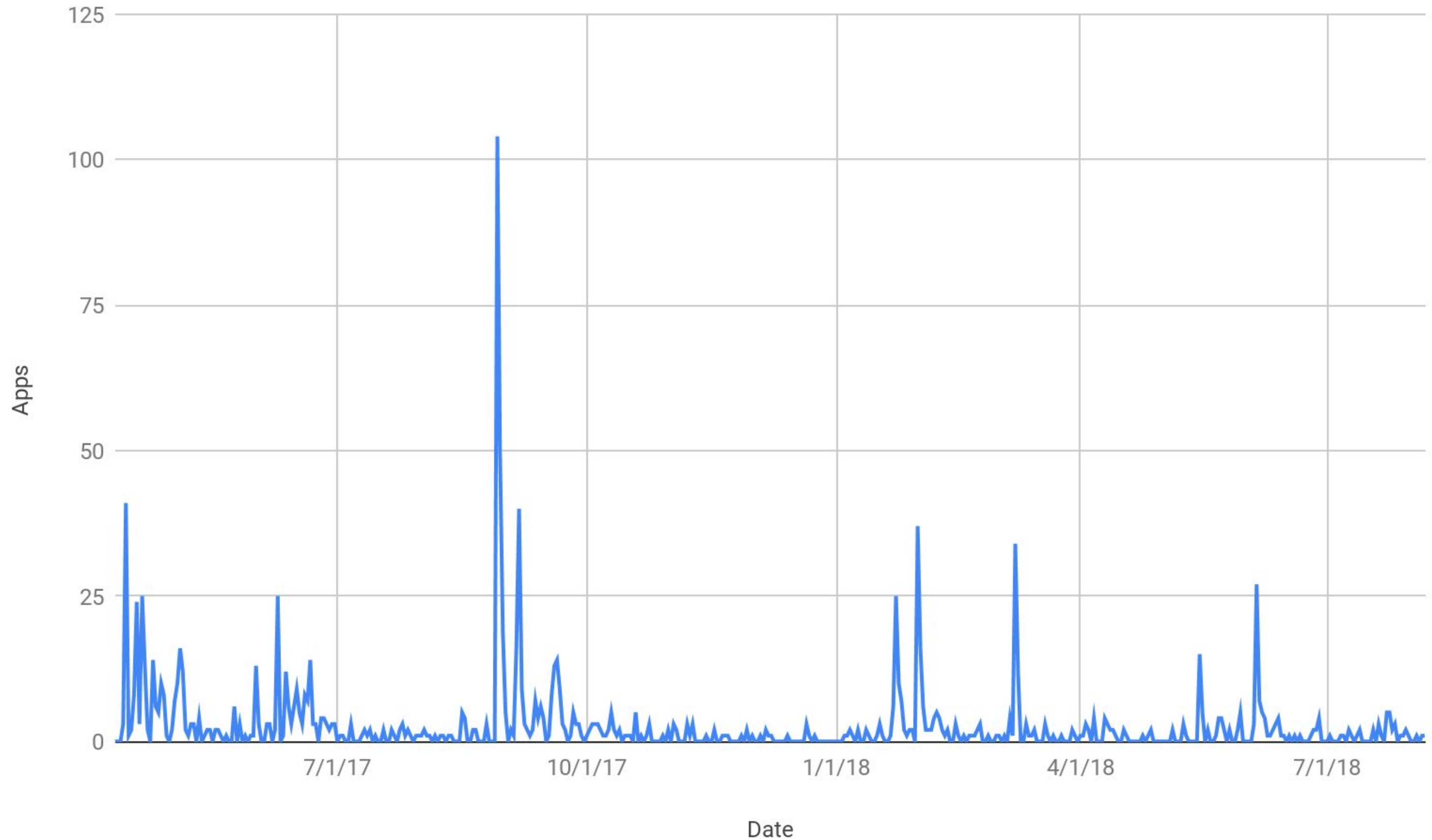
**HAVE QUESTIONS?**





# Patient Marketing Toward 30% Enrollment in Year 1

*% of target T2D  
population applied*



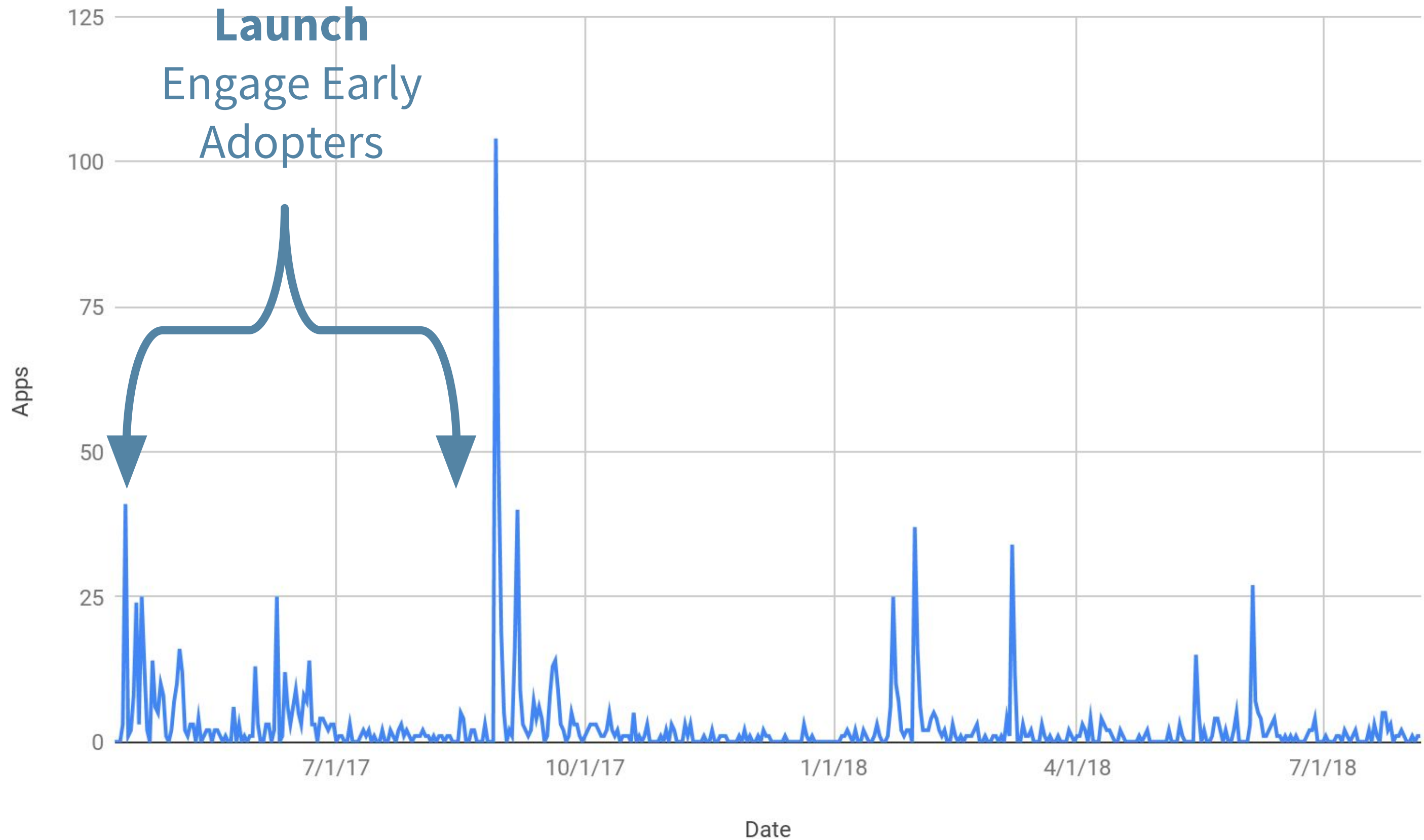
# Patient Marketing Toward 30% Enrollment in Year 1

*% of target T2D  
population applied*

**15%**

*0-3 month launch*

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# Patient Marketing Toward 30% Enrollment in Year 1

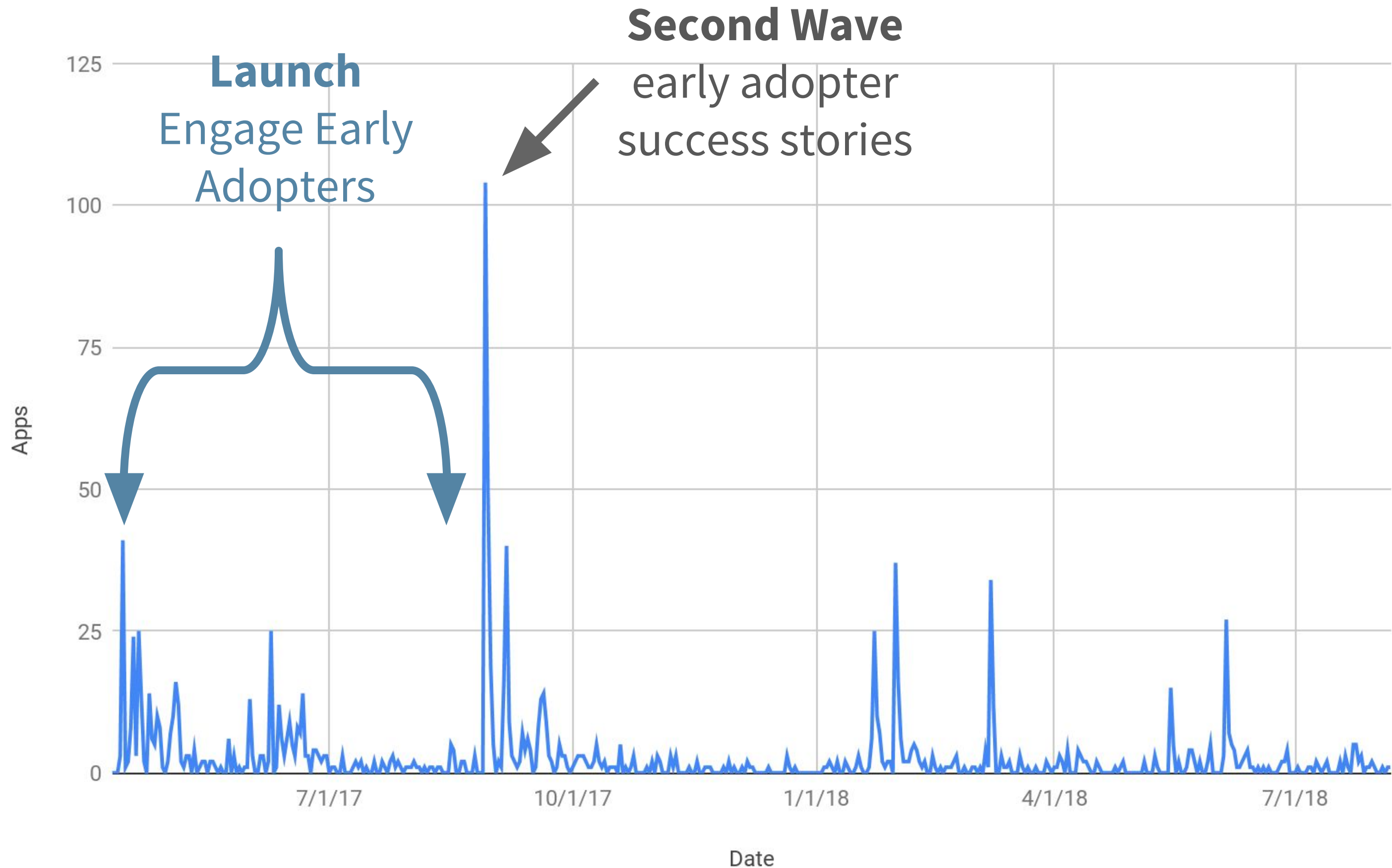
*% of target T2D  
population applied*

**15%**

*0-3 month launch*

**25%**

*2nd wave,  
3-9 months*



# Patient Marketing Toward 30% Enrollment in Year 1

*% of target T2D  
population applied*

**15%**

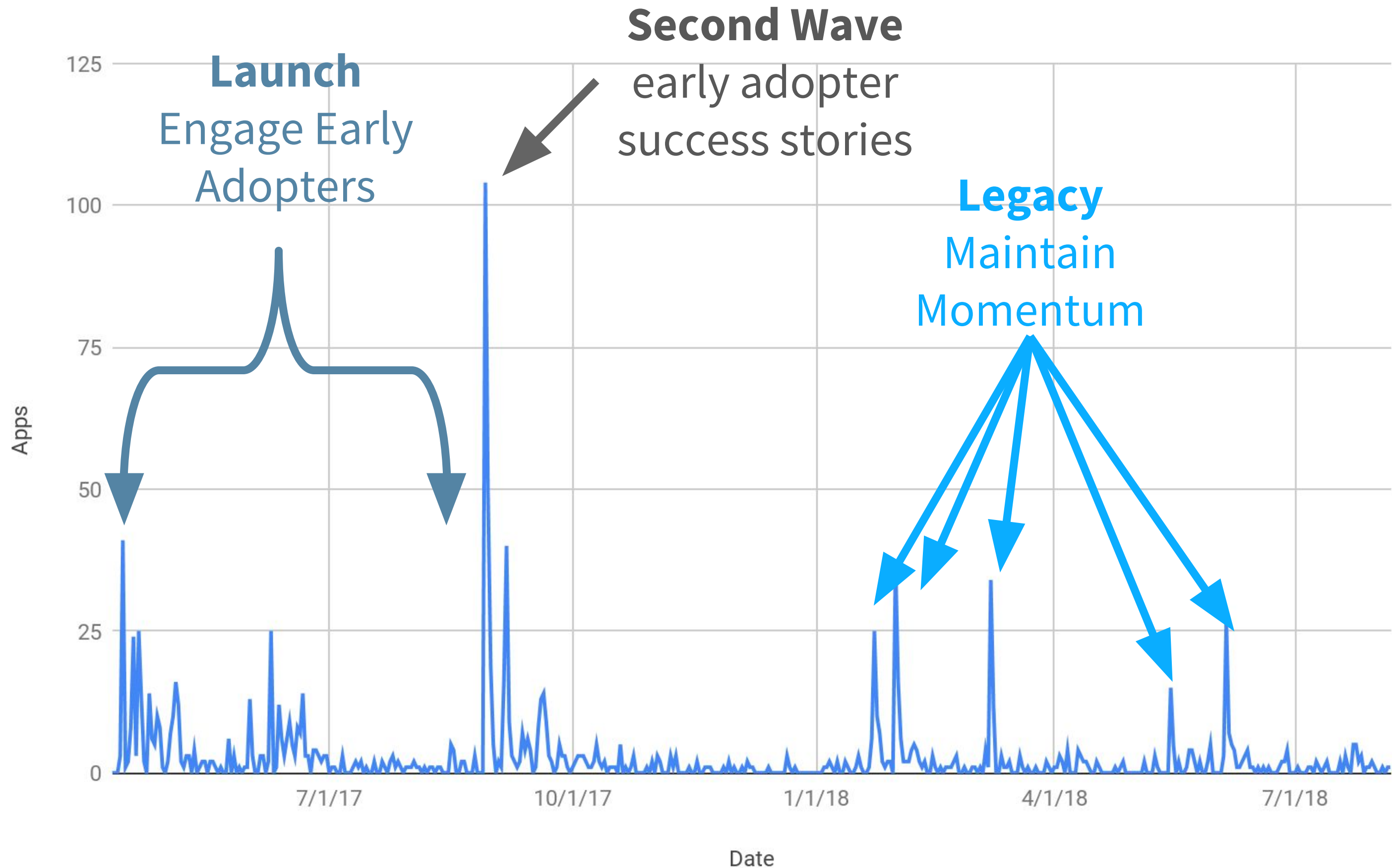
*0-3 month launch*

**25%**

*2nd wave,  
3-9 months*

**40%**

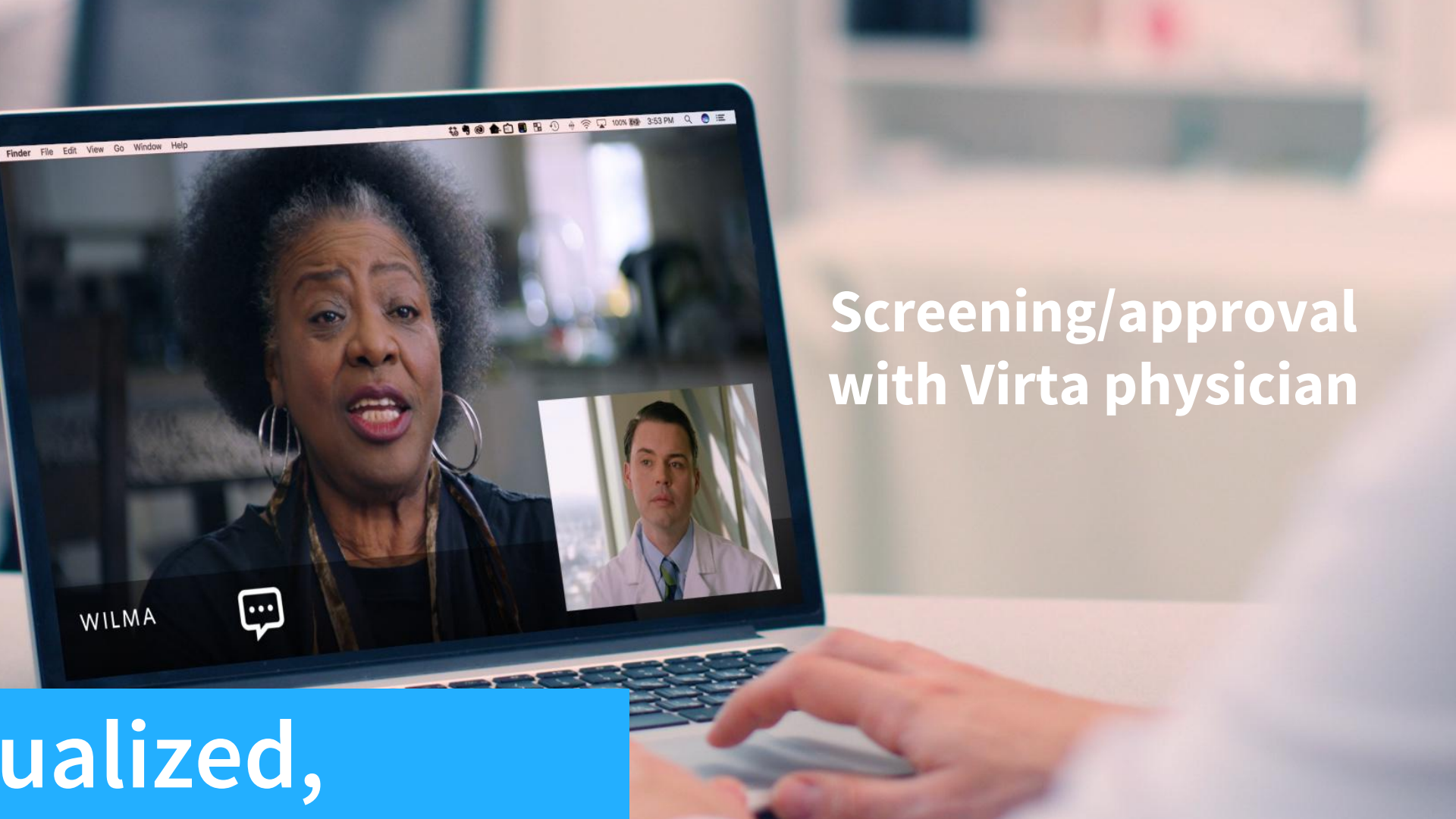
*>9 months*







**Intake Call  
with Specialist**




**Screening/approval  
with Virta physician**

**Individualized,  
Continuous Remote Care  
by licensed Virta Providers**



**Onboarding &  
meeting your  
Virta Coach**



**All hardware,  
software and  
disposables  
provided.**



71%

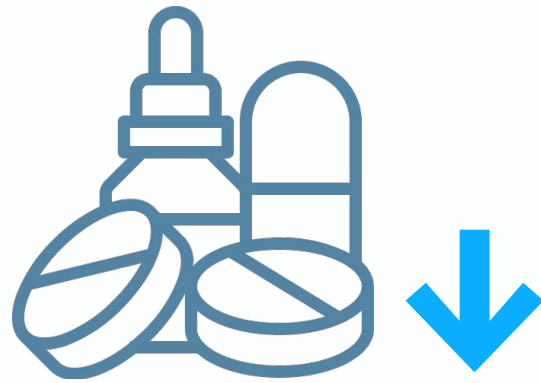
**Virta Patient  
Net Promoter Score**

# Integration with Existing Providers

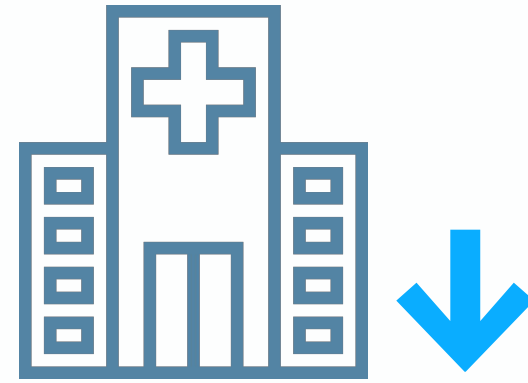
- Virta is a Metabolic Health Expert doing work PCPs and Endos don't have time/access to do
- We report patient outcomes to PCPs periodically and provider physician-to-physician consultations as needed
- We typically reverse T2 diabetes "in between" PCP visits



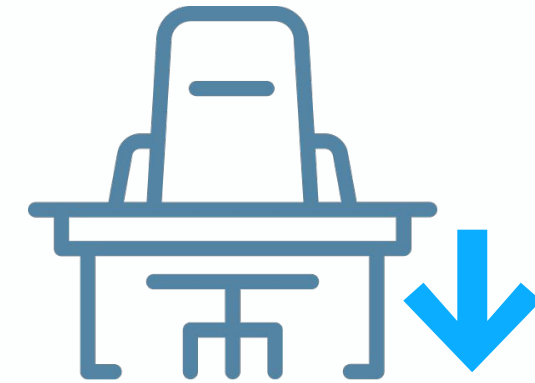
# Virta Drives a Variety of Savings



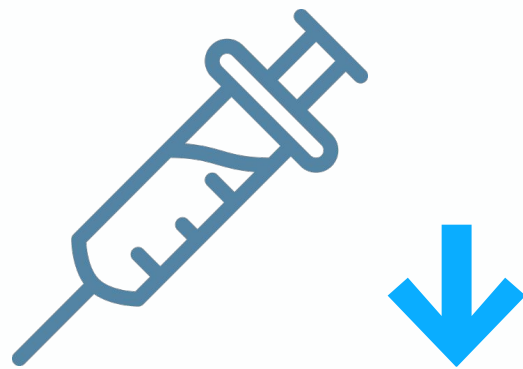
**Medications**



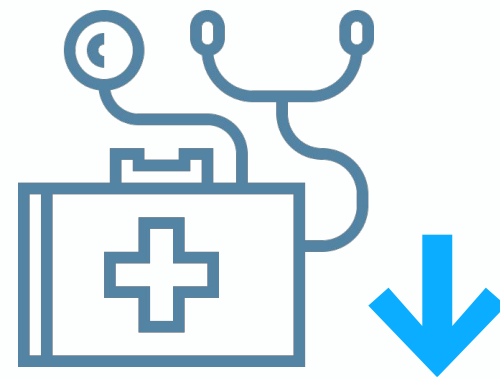
**ER/Hospital Visits**



**Workplace  
Absenteeism**



**Medical  
Equipment**



**Specialized Visits**



**Workers' Comp  
Claims**





*PERFORMANCE-BASED PRICING*

# We go at-risk for our fees

*(You can also choose a flat-fee option)*



FOR TODAY

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High Level Context

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Outcomes

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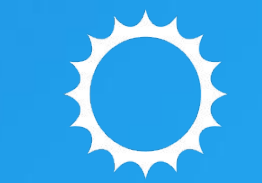
Patient Experience

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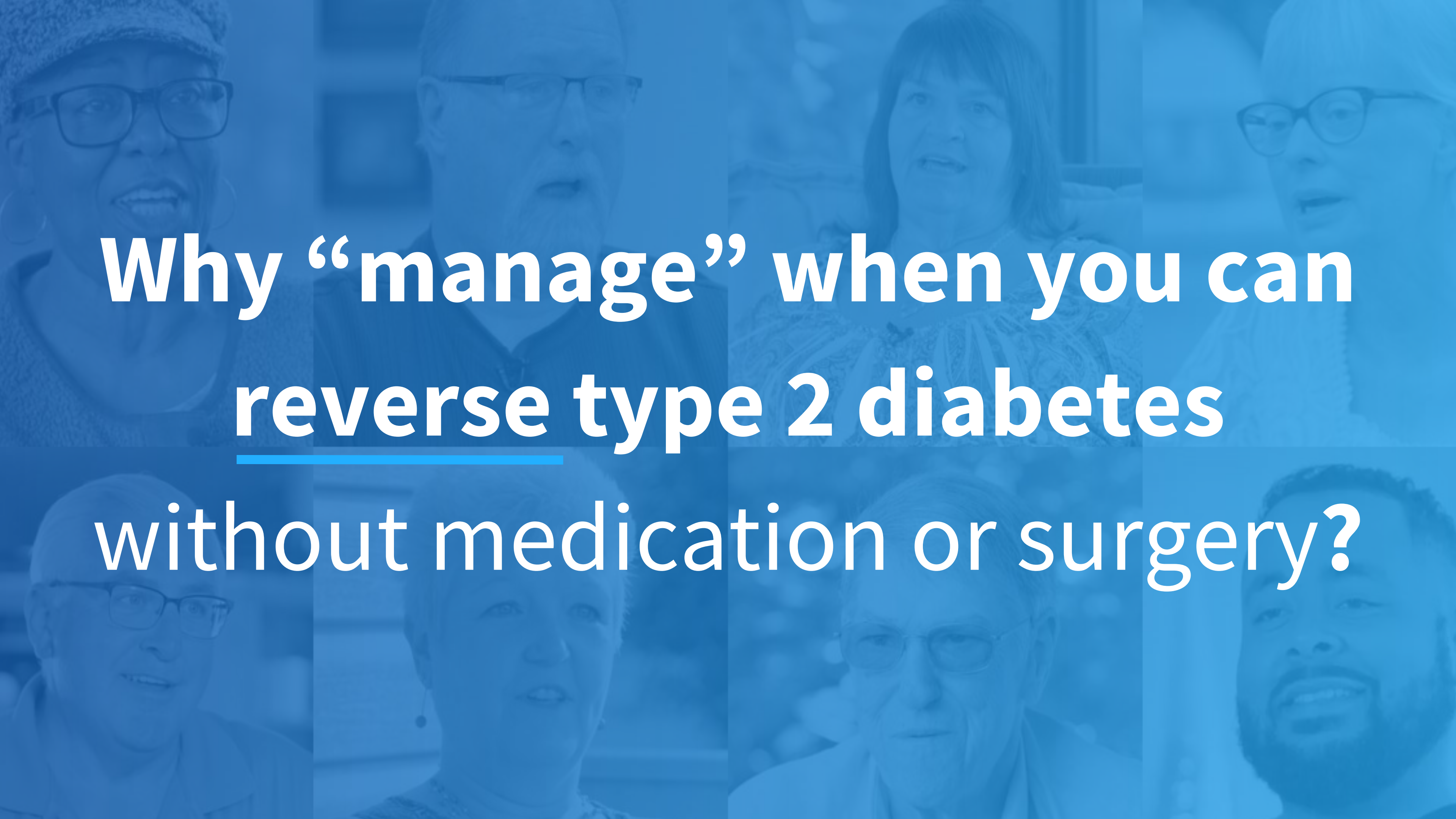
Enterprise Experience

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**Conclusion**



**virta**

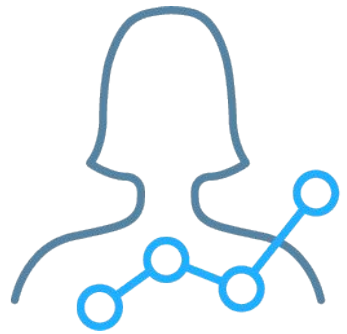


**Why “manage” when you can  
reverse type 2 diabetes  
without medication or surgery?**

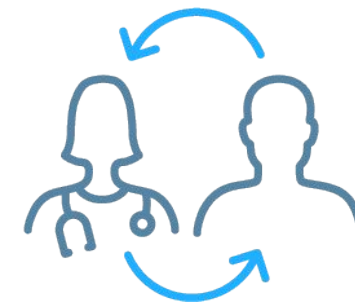


# The Virta Treatment is different from anything else

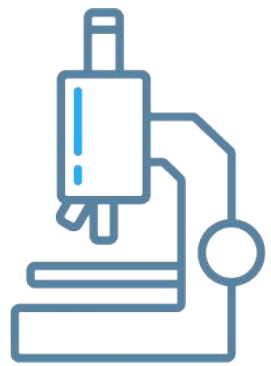
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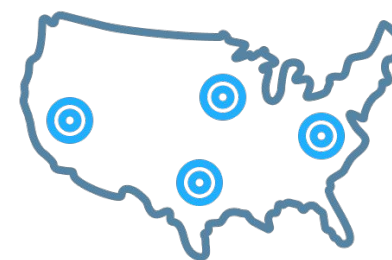
**Proven type 2  
diabetes reversal**



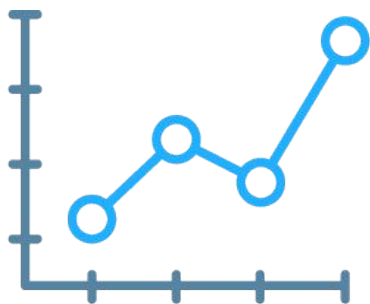
**High activation (30%) &  
retention (90%) at 1 year**



**Improves 4 other  
chronic diseases**



**Licensed medical provider  
in all 50 states with  
continuous remote care**



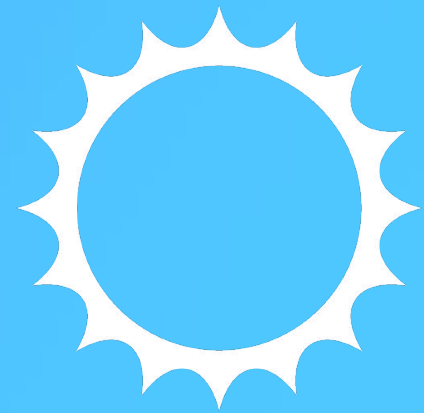
**Superior, peer-reviewed,  
published outcomes**



**Fees at risk based on  
results**

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Thank you!



**virta**



# Links to further information

[www.virtahealth.com](http://www.virtahealth.com)

@virtahealth, @jpmccarter

jim @ virtahealth.com