

# Welcome to Today's Program!

***Precision Medicine is Here:  
Preventing Metabolic Disease with Food As Medicine***

## September 10, 2020

Thank you to our Affiliate Member  
and Sponsor!

● DAY  
■ TWO

# Presenters



## Josh Stevens

is a healthcare executive with a 25-year track record building teams and scaling companies in the tech and healthcare sectors. Josh is President of Day Two.



## Alan Spiro, M.D., F.A.C.N.

is a healthcare leader with over 30 years of experience with Blue Cross Blue Shield, Accolade, Anthem and Willis Towers Watson.



# Respondents



**Jan Berger, M.D.**

is a tri-sector healthcare executive with over 30 years of experience with CVS Health, Mid-West Business Group on Health, and Health Intelligence Partners.



**Jack Mahoney, M.D.**

is a healthcare strategist and employee health expert who has served as Strategic Healthcare Initiatives Director at Pitney Bowes. He currently serves as Medical Director at the Florida Alliance.

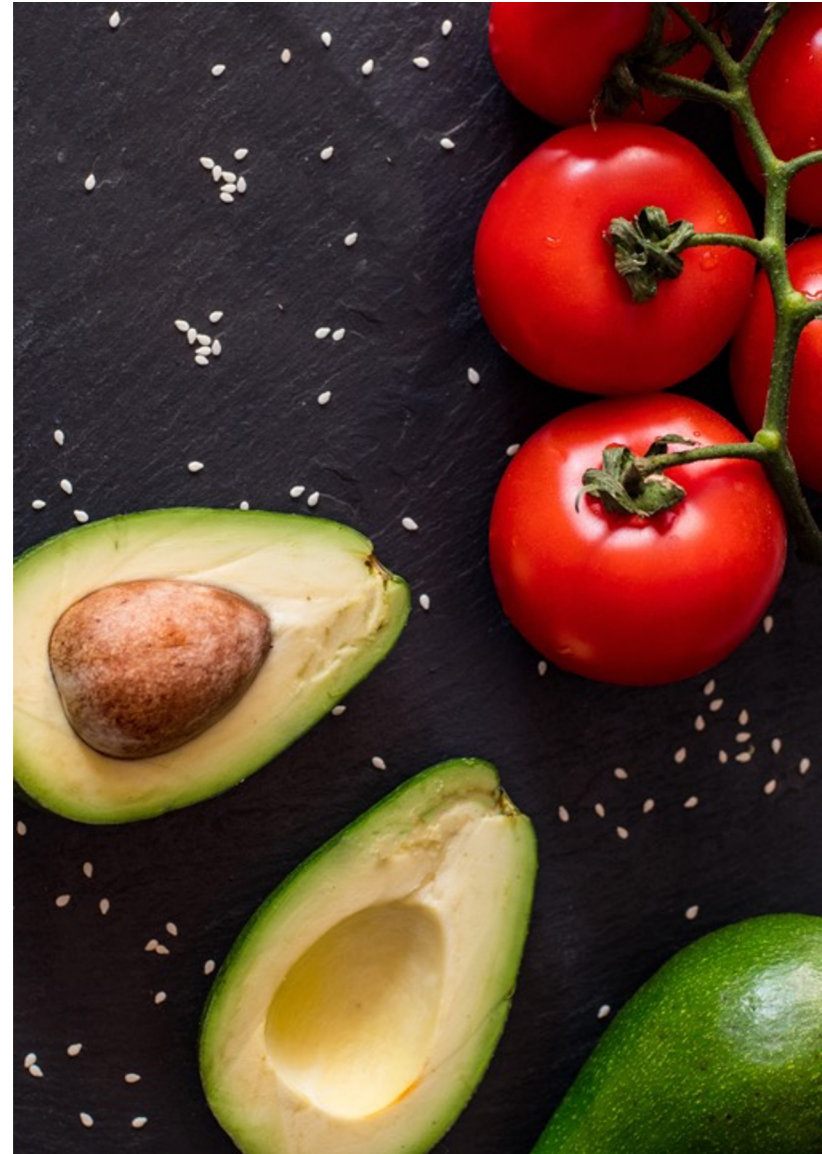




# Precision Medicine is Here Preventing Metabolic Disease with Food As Medicine

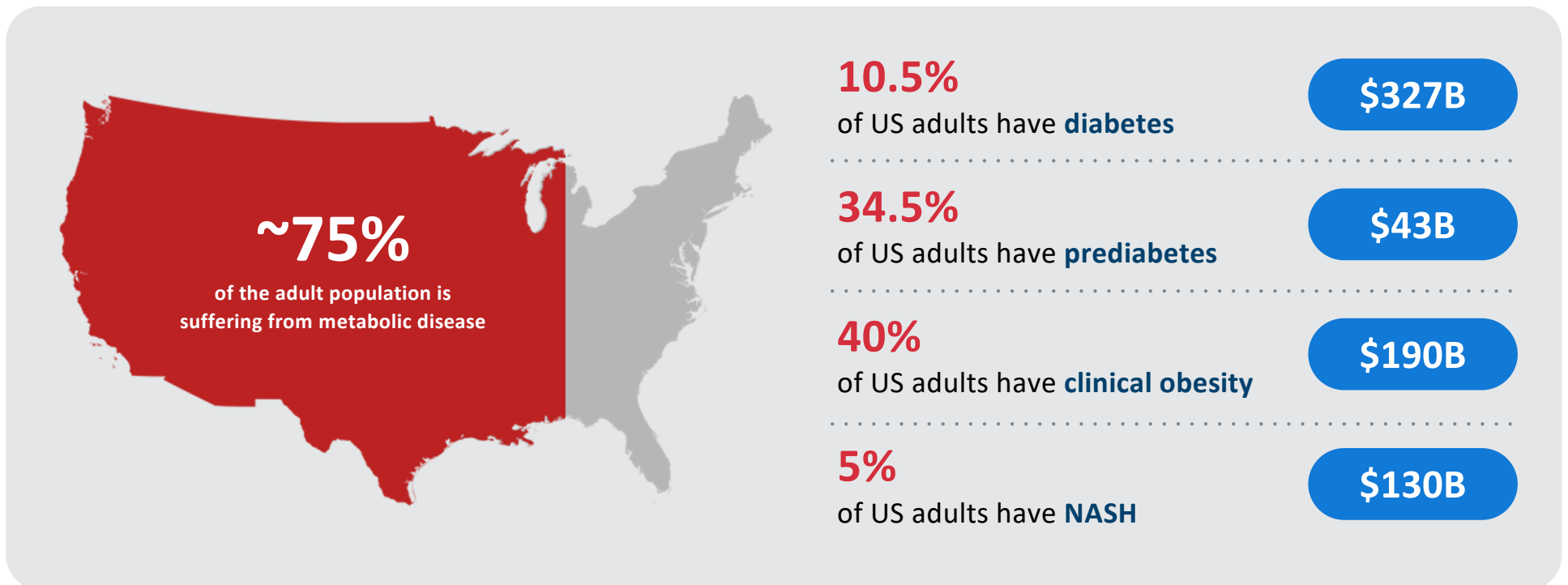
# Agenda

- Introductions
- Metabolic Disease
  - The Costs of Metabolic Disease
  - Traditional Care Approaches
  - The Importance of Food & Metabolic Disease
- **Metabolic Disease: Prevention & Remission**
  - How the Microbiome Has Enabled Precision Nutrition
  - Food Prescriptions for Prediabetes & Diabetes Prevention
- **Case Study: Diabetes Remission with Food As Medicine**
- Q&A



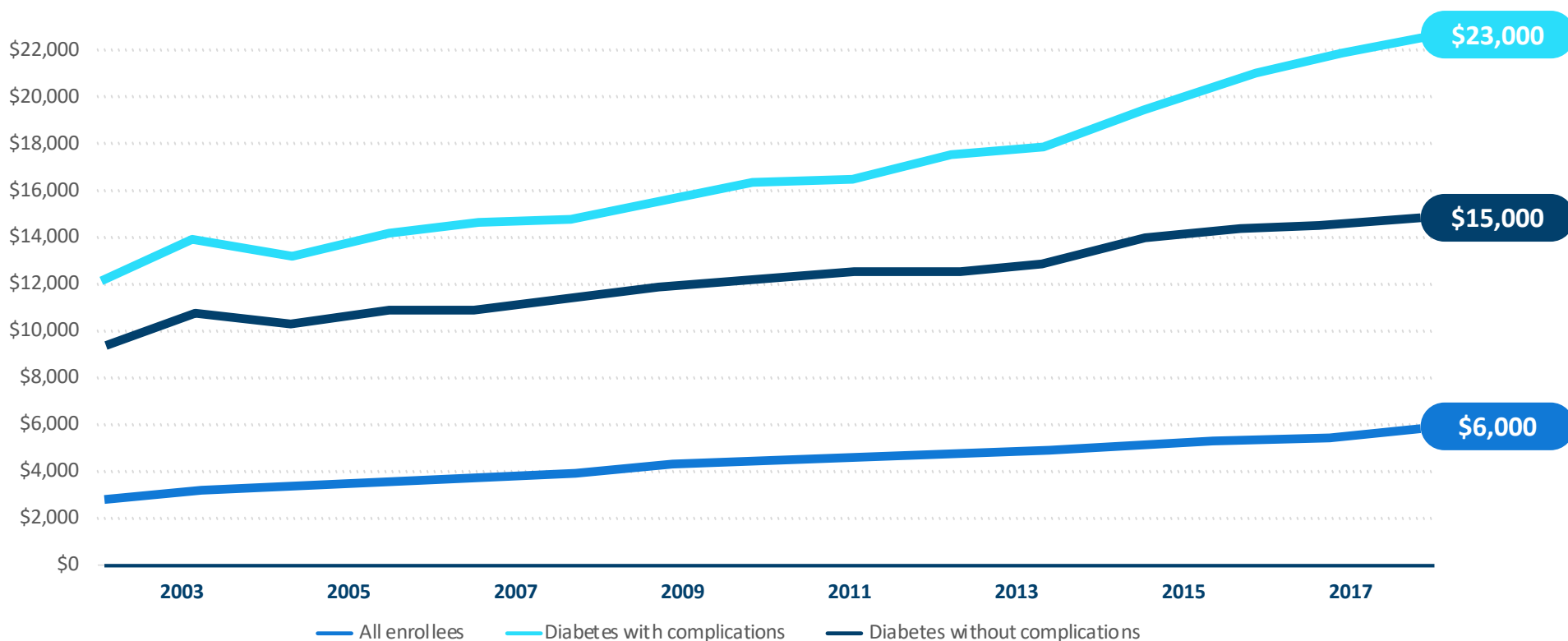
# Which Medical Condition Affects ~75% of US Adults?

Metabolic disease is a **\$700 billion** a year problem



# Employees With Diabetes Are 4x More Expensive

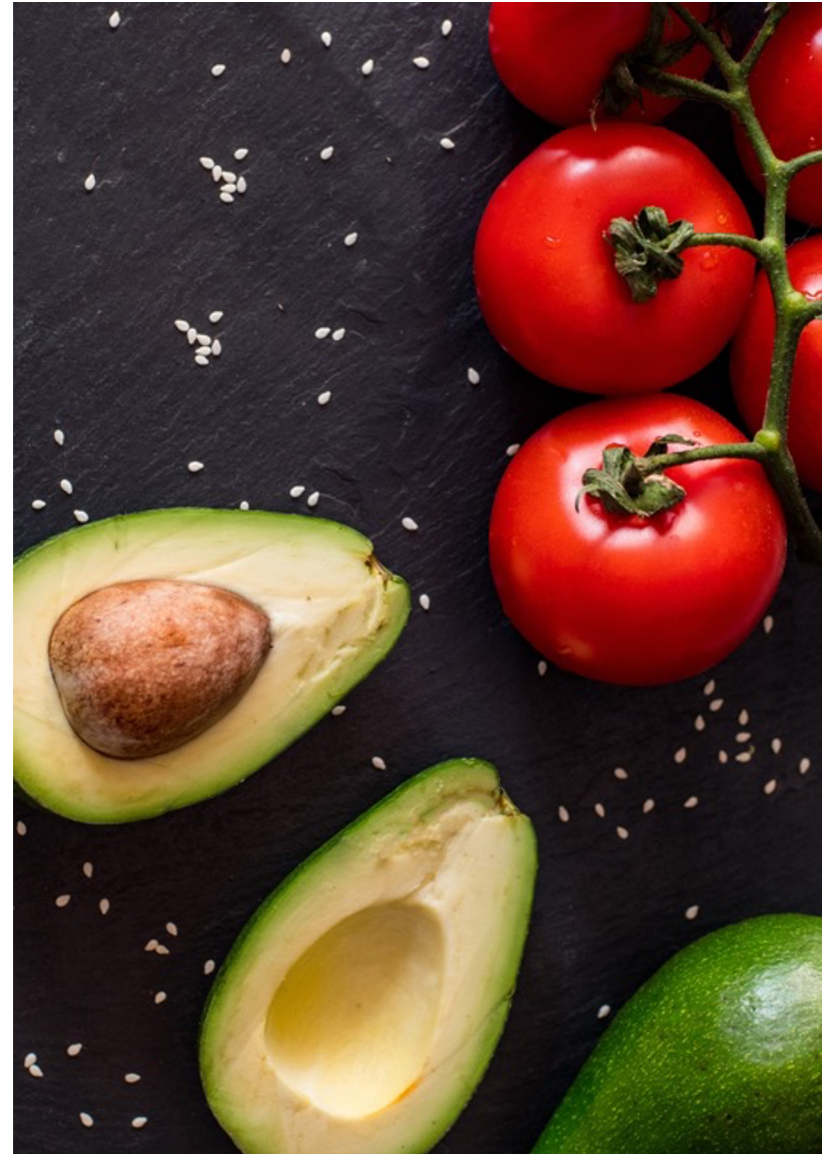
Total average annual spending for people with health coverage from a large employer, by diagnosis



Source: KFF analysis of IBM MarketScan Commercial Claims and Encounters Database, 2003-2017

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# Traditional Approaches To Metabolic Disease

**ADA  
Guidelines**

**Medication**

**Nutrition**

**Surgery**

# Prescription Drugs Are Not Based on Precision

**Amblify** (*aripiprazole*): Schizophrenia



**Nexium** (*esomeprazole*): Heartburn



**Humira** (*adalimumab*): Arthritis



**Crestor** (*rosuvastatin*): High cholesterol



**Cymbalta** (*duloxetine*): Depression



**Enbrel** (*etanercept*): Psoriasis



**Advair Diskus** (*fluticasone propionate*): Asthma



**Remicade** (*infliximab*): Crohn's disease



**Copaxone** (*glatiramer acetate*): Multiple sclerosis



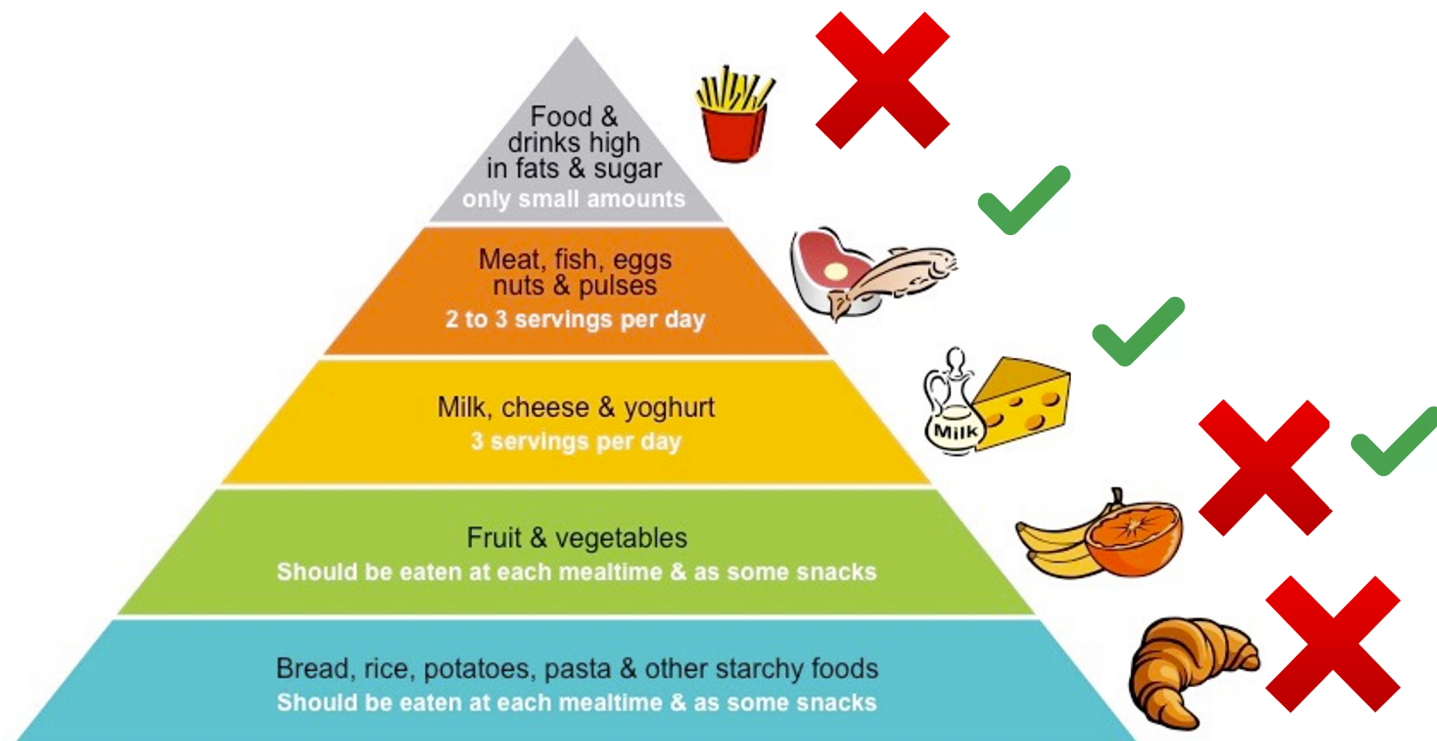
**Advair Diskus** (*fluticasone propionate*): Asthma



Based on published number needed to treat (NNT) figures. For a full list of references, see Supplementary Information at [go.nature.com/4dr78f](https://go.nature.com/4dr78f)



# Population Diabetes Programs say “No” to Food Categories



Source: data adapted from USDA



# Food Choices Have Biggest Impact on Life with Diabetes

**TABLE 1. Ranking of Factors That Have a "Big Impact" on Daily Life With Diabetes by Respondents' Diabetes Type and Therapy**

Rank*	Diabetes/Therapy Type		
	T1	T2I	T2NI
1	Food choices (63%)	Food choices (67%)	Food choices (64%)
2	Time-in-range (57%)	Time-in-range (45%) A1C (44%)	Time-in-range (41%) A1C (41%)
3	Unexpected blood glucose numbers (42%)	Nondiabetes health issues (36%) Dosing insulin (34%)	Nondiabetes health issues (31%)
4	Dosing insulin (37%)	Unexpected blood glucose numbers (28%)	Unexpected blood glucose numbers (20%)
5	Hypoglycemia (30%) A1C (30%) Nondiabetes health issues (27%)	Symptoms of complications (24%)	Symptoms of complications (15%)

Source: *Clinical Diabetes* (ADA)

**Precision nutrition is here:  
high resolution microbiome profiling  
enables a path to diabetes prevention  
& remission**

# The Science: Microbiome Impact on Precision Nutrition

10 years of science

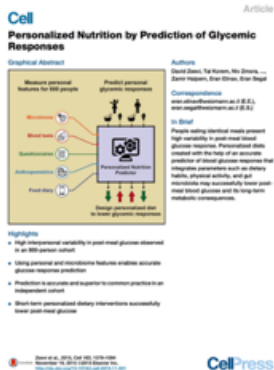
Cell

Cell  
Metabolism

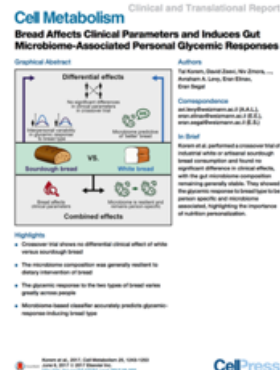
nature

JAMA

The American Journal of  
CLINICAL NUTRITION



Personalized Nutrition by Prediction of Glycemic Responses



Bread Affects Clinical Parameters and Induces Gut Microbiome-Associated Personal Glycemic Responses



Environment Dominates Over Host Genetics in Shaping Human Gut Microbiota



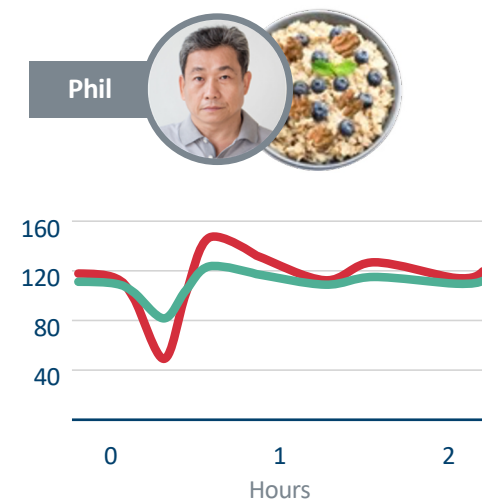
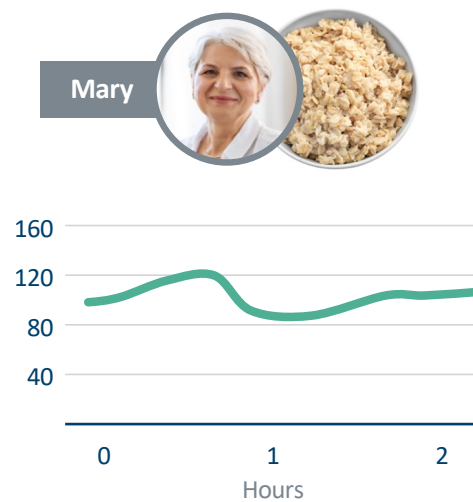
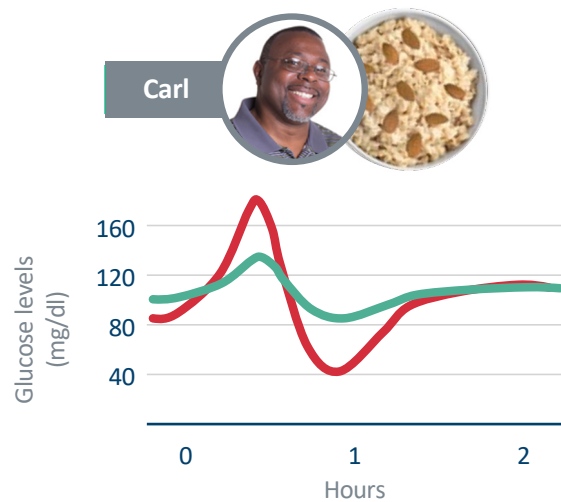
Assessment of Personalized Nutrition by Prediction of Glycemic Responses



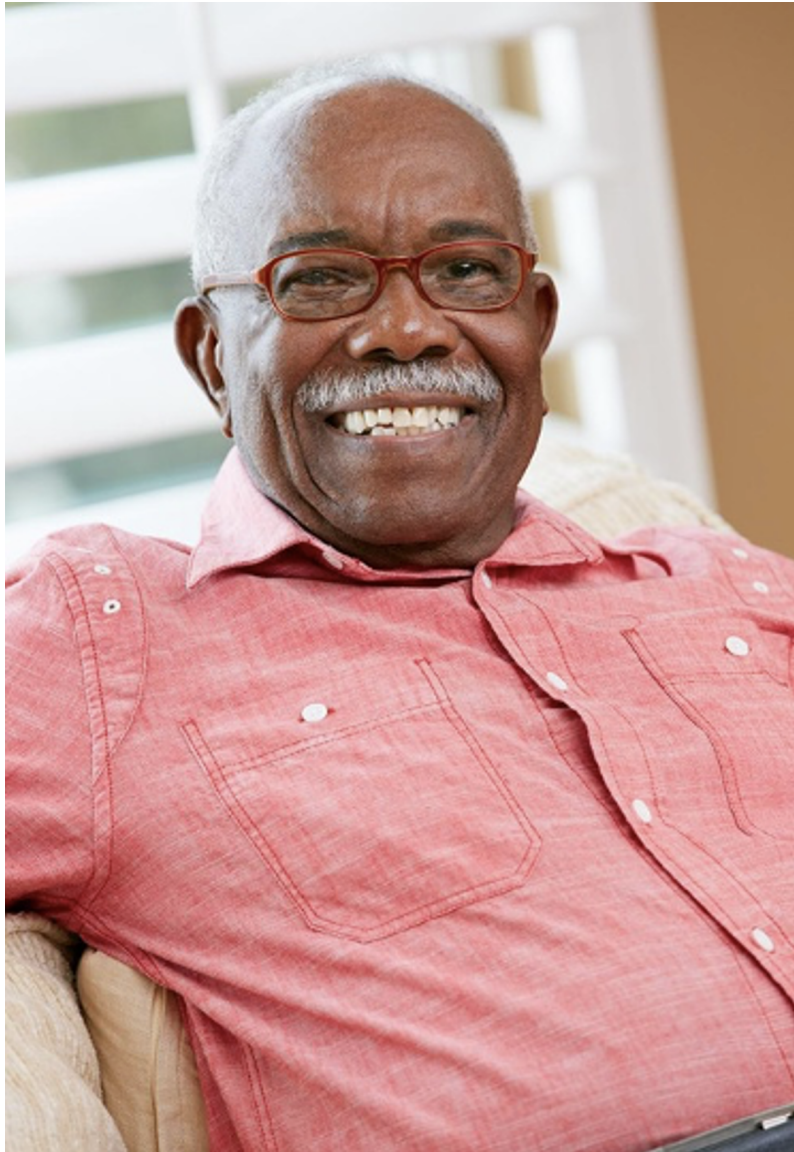
Model of Personalized Postprandial Glycemic Response to Food



# People Respond Differently to the Same Food



Source: JAMA

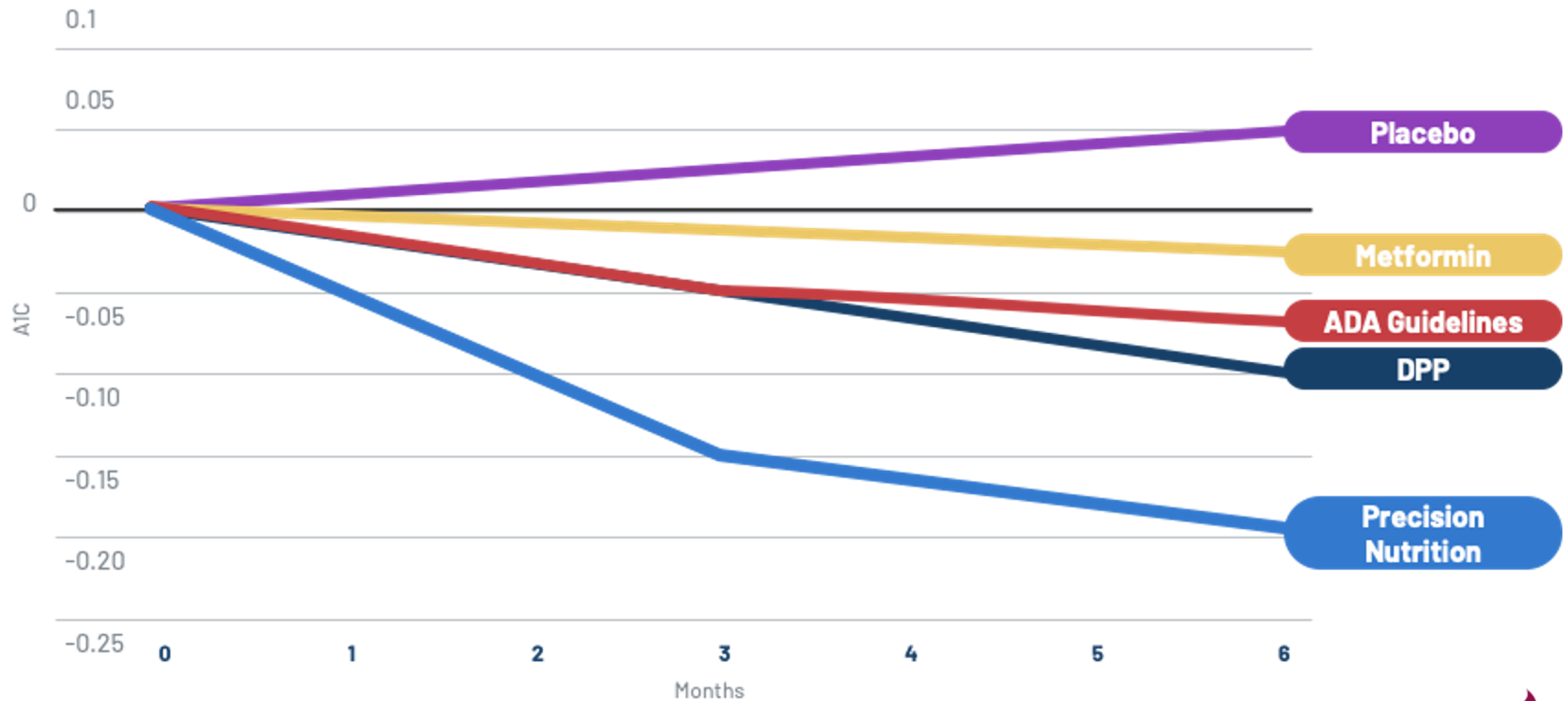


## How Food Prescriptions Work

Food is family and food is heritage. Food defines who we are and requires an understanding of cultural competence.

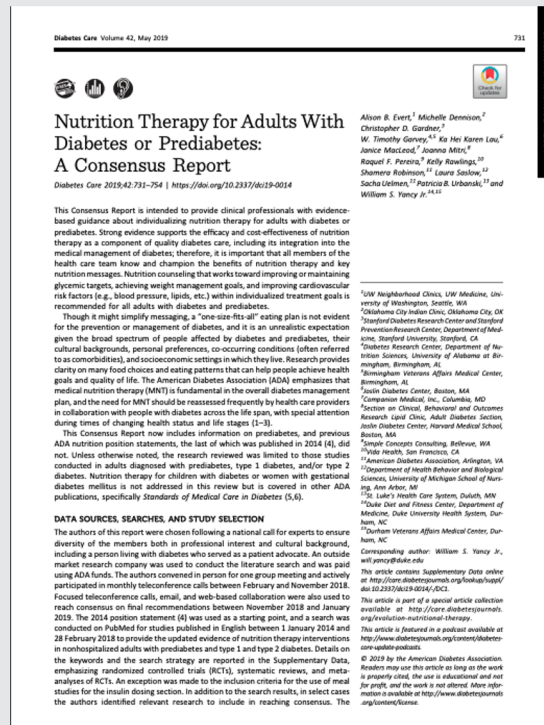
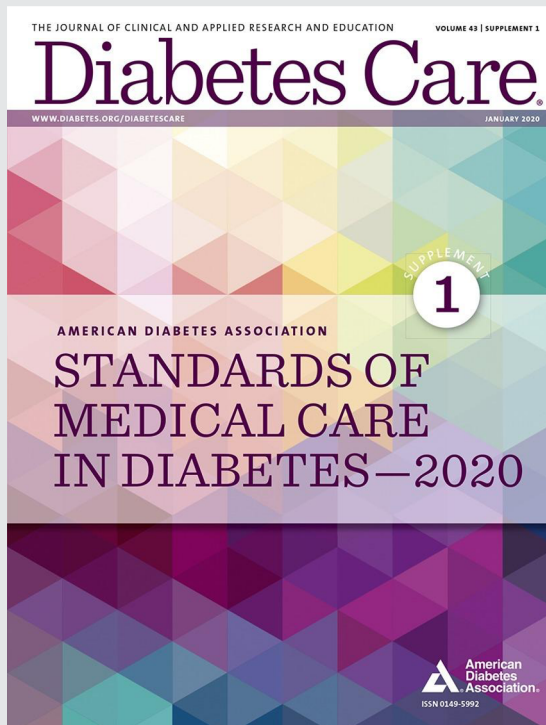
- **Precision-based, cultural eating experience**
  - Specific for the person who receives a food prescription and meets them where they are, from a family and cultural perspective
- **Microbiome Initiated Food Prescription**
  - A prescribed diet should be based on personal parameters, including a microbiome test, not general advice.
- **Support with a CDCES or RDN throughout**
  - The prescribed diet requires proper counseling by the appropriate professional to implement and ensure engagement and stickiness

## Prediabetes: Food As Medicine Most Effective at Lowering A1C





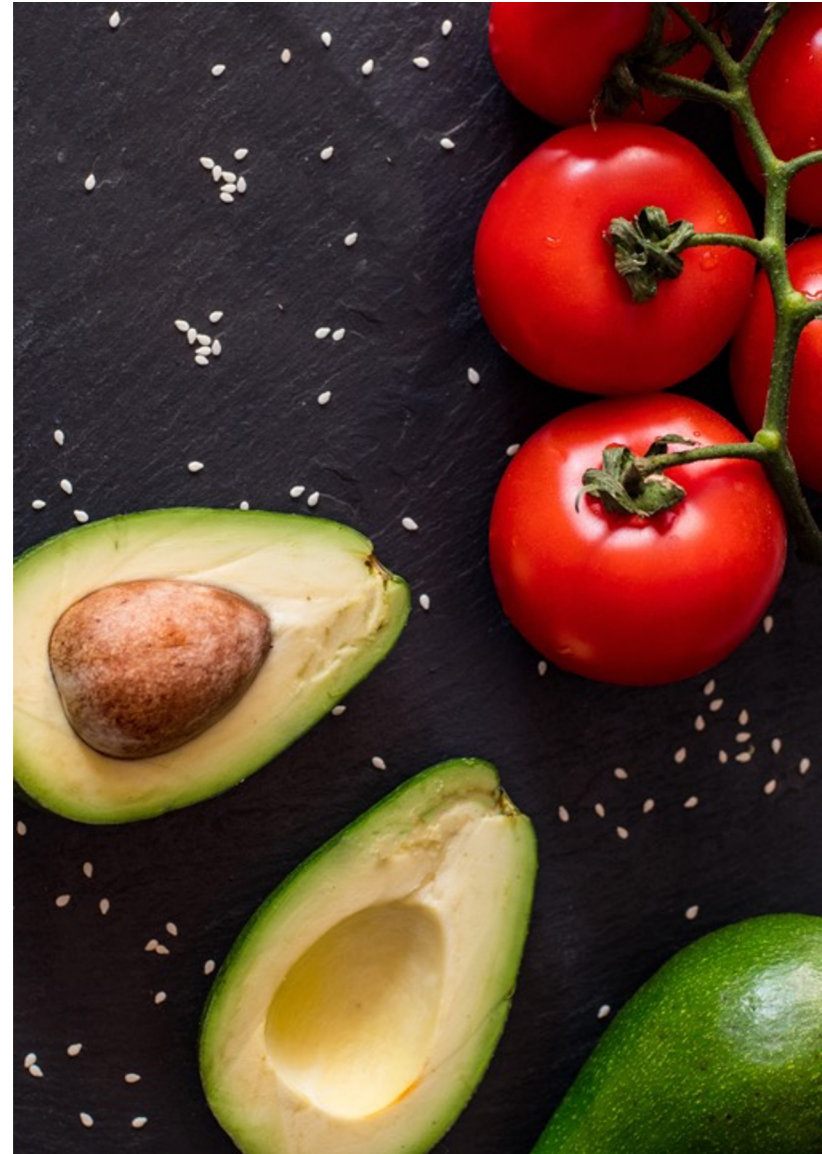
# ADA Cites Microbiome Profiling in 2020 Standards of Care



“...research has shown, for example, the wide interpersonal variability in blood glucose response to standardized meals that could be predicted by clinical and microbiome profiles.”

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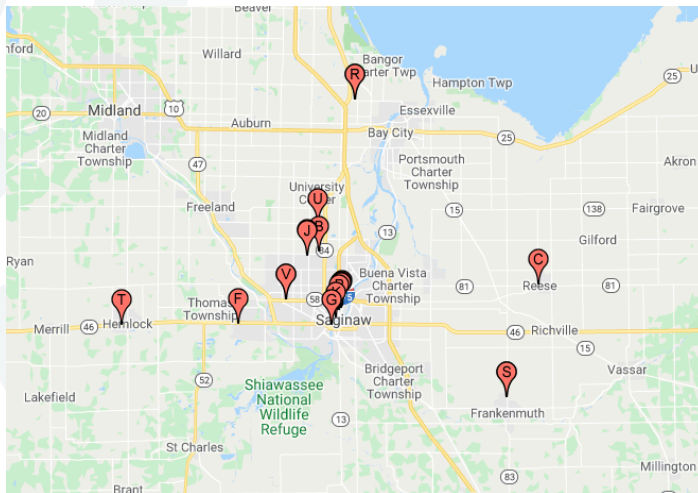
# Employer Case Study

## Covenant HealthCare

Food As Medicine enables a path to  
diabetes remission

# Covenant HealthCare

- 7 critical hospitals across Michigan
- 4,400 employees and 380 volunteers
- 20 counties across northeast and central Michigan
- 90,000 visits a year in our trauma/emergency care center



# Covenant HealthCare Employee Diabetes Statistics

## Population

Employees: **4,800**  
Covered Lives: **7,500**  
Type 2s: **463**

## Costs

Total: **\$45 million**  
Type 2: **\$5.5 million**

## Continuity

2017: **29%**  
2018: **33%**  
2019: **31%**

# Covenant HealthCare Clinical Outcomes



▼ **1.55**  
reduction  
in A1C



▼ **18 lbs**  
reduction  
in weight



▲ **63%**  
improved  
time-in-range



▲ **88%**  
member  
engagement

# Covenant HealthCare Patient Reported Outcomes



▲ **72%**  
increase  
in energy



▲ **55%**  
increase in  
sleep quality



▼ **48%**  
reduction  
in hunger



[Josh.Stevens@DayTwo.com](mailto:Josh.Stevens@DayTwo.com)

DayTwo is a **precision nutrition, telehealth** solution that enables a path to **remission for metabolic disease** (diabetes, prediabetes, obesity and NASH)

DayTwo uses **gut microbiome profiling, predictive algorithms, and telehealth-based clinical support** to deliver success for 62,000+ **patient members**.

DayTwo is a fee-for-outcome provider and offers up to **100% fees at risk**



# Respondent Remarks



**Jan Berger, M.D.**

is a tri-sector healthcare executive with over 30 years of experience with CVS Health, Mid-West Business Group on Health, and Health Intelligence Partners.

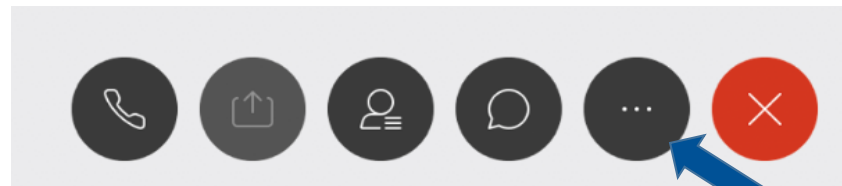


**Jack Mahoney, M.D.**

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## TO ASK A QUESTION OF A PRESENTER OR RESPONDENT



On your screen, click here to see **Q&A** function.

The **Q&A function** is found by clicking on the ellipsis icon.

- Type in your question and send to “All Panelists.”
- There is a 256-character limit for questions.
- If we are unable to address your question during the online presentation, we will try to have the remaining questions answered following the session and posted with the follow up material.