

Now More Than Ever....

Utah Academy of Family Physicians
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DAVID



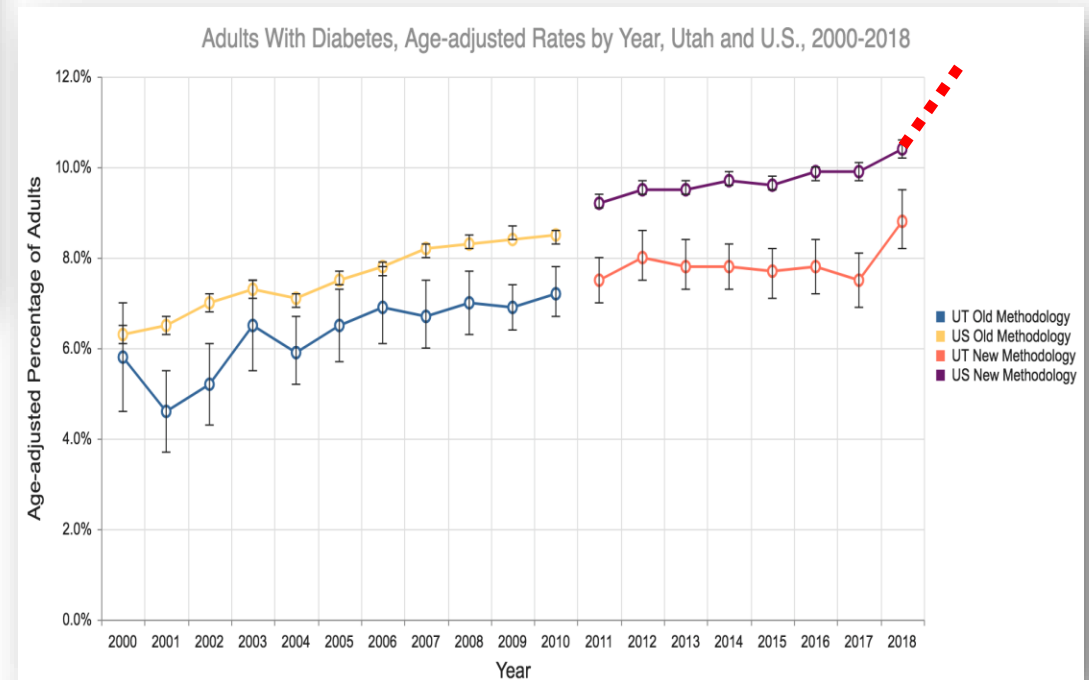
COVID

No conflict of interests or relevant financial disclosures

Why Diabetes Prevention...Why Now? → The Next Surge



T2DM Surge 2022-2023

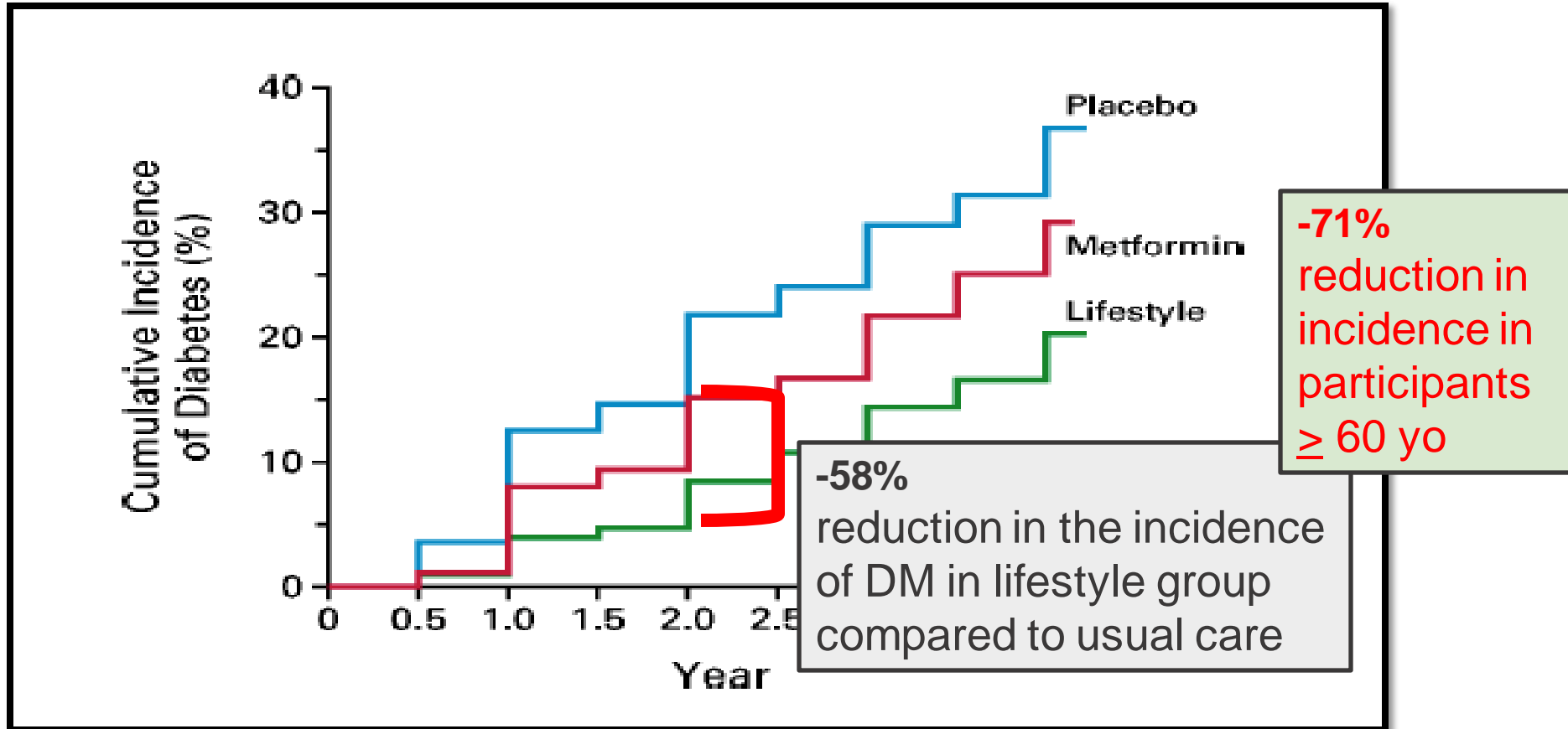


Outline

- Intermountain's Diabetes Prevention Program
- Research and evaluation
- Current status and future goals
- Financial implications
- Diabetes and COVID-19
- Role of physical activity and exercise
- Virtual resources



Healthy Lifestyle & Diabetes Prevention



Diabetes Prevention Program NEJM 2002

10 year Follow-up of the DPP

- incidence of diabetes in those randomized to reduced care

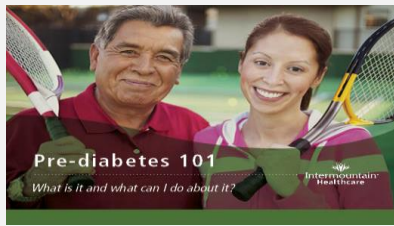


Outperformed

in those randomized to reduced care by **2:1** 18% compared to usual care



Diabetes Care 35:723–730, 2012



Prediabetes 101 Class

2 hr, Group Setting – **NOW VIRTUAL!**

Taught by CDE & RD

Classes located in:

Clinics

Community

Patient engagement tool

Free of charge



Medical Nutrition Therapy

Individualized nutrition counseling - **NOW VIRTUAL!**

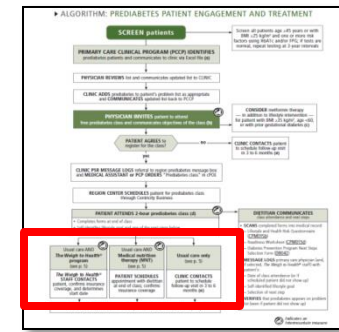
Taught by RDs

Locations for counseling:

- Hospital & Clinics

Personalized eating plan & support

Commercial insurers have no co-pay for 3 to 5 visits annually



Weigh to Health (W2H)

16 sessions over 6 months; + monthly visits over 6 months

Hospital-based; RD taught

Full recognition with CDC DPRP

Only some commercial insurers will reimburse; IH health plan covers 100% if you complete



omada

Omada

Peer Support Group

iOS and Android Mobile Apps

Digital Pedometer/Cellular Scale

Asynchronous; Personalized Weekly Interactive Lessons

CDC Recognized

Dedicated Health Coach

Evaluation & Research

PLOS ONE

RESEARCH ARTICLE

Incidental Risk of Type 2 Diabetes Mellitus among Patients with Confirmed and Unconfirmed Prediabetes

278 Journal for Healthcare Quality

CE

Stepping Back to Move Forward: Evaluating the Effectiveness of a Diabetes Prevention Program Within a Large Integrated Healthcare Delivery System

PREVENTING CHRONIC DISEASE

PUBLIC HEALTH RESEARCH, PRACTICE, AND POLICY

Volume 14, E58

JULY 2017

ORIGINAL RESEARCH

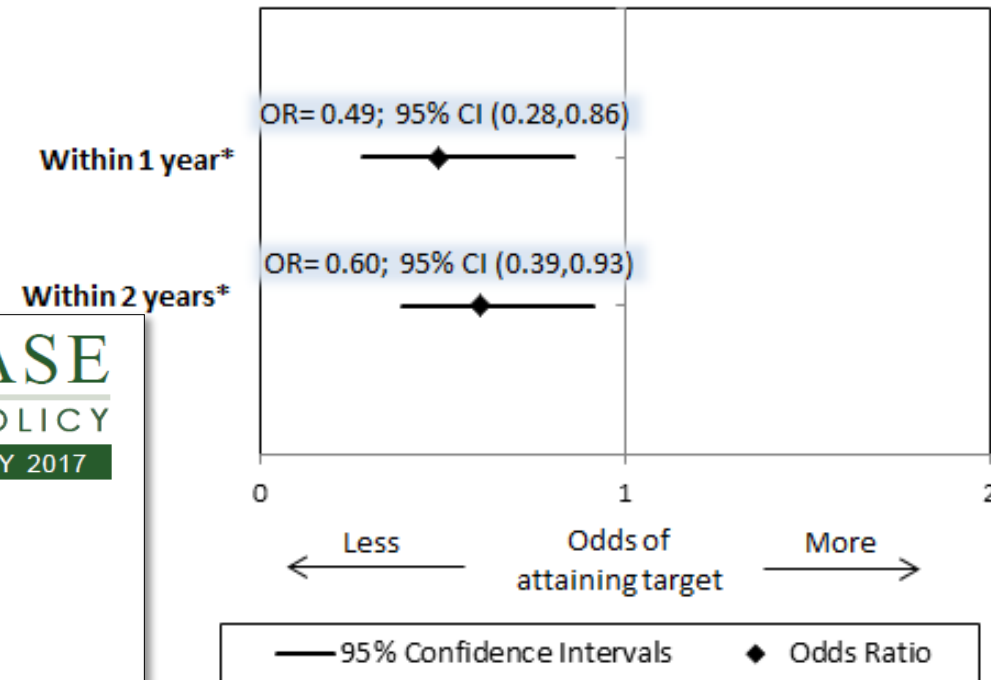
A Formative Evaluation of a Diabetes Prevention Program Using the RE-AIM Framework in a Learning Health Care System, Utah, 2013–2015

Intermountain Advances

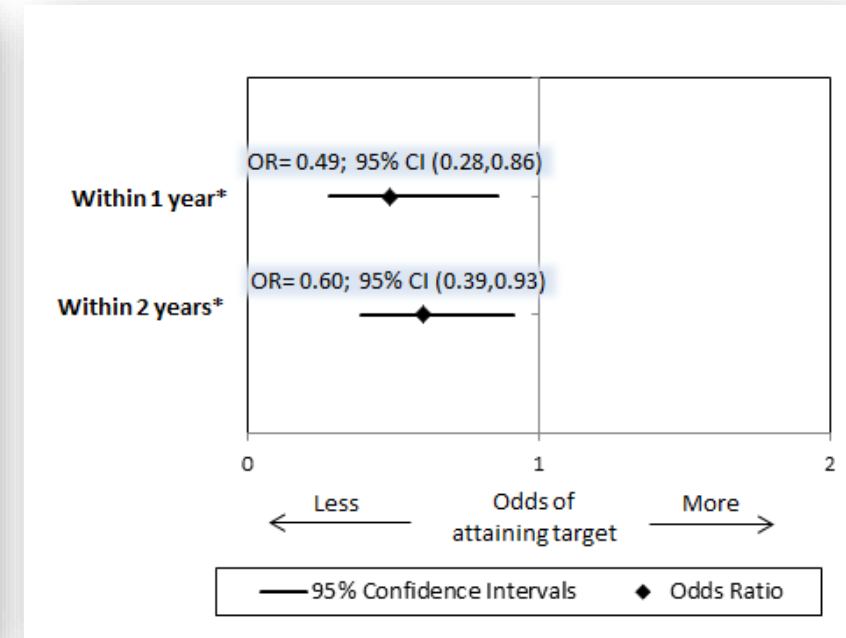
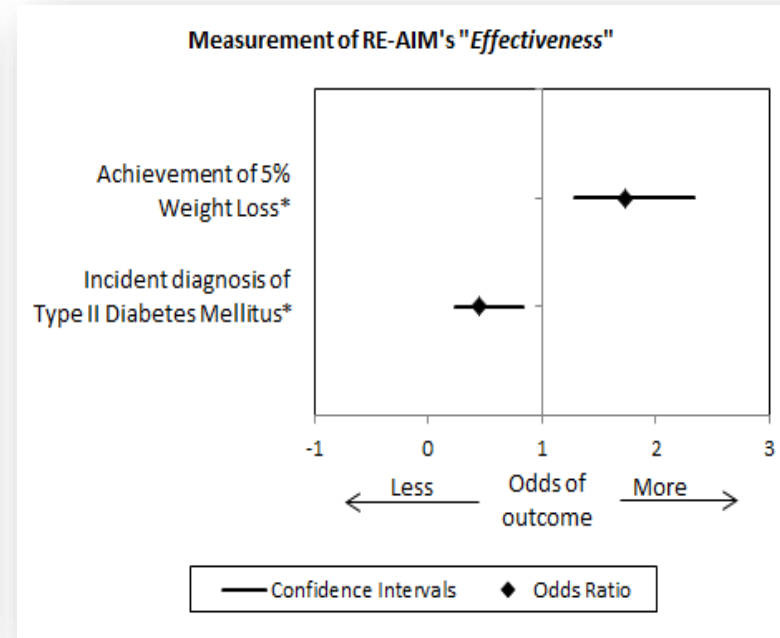
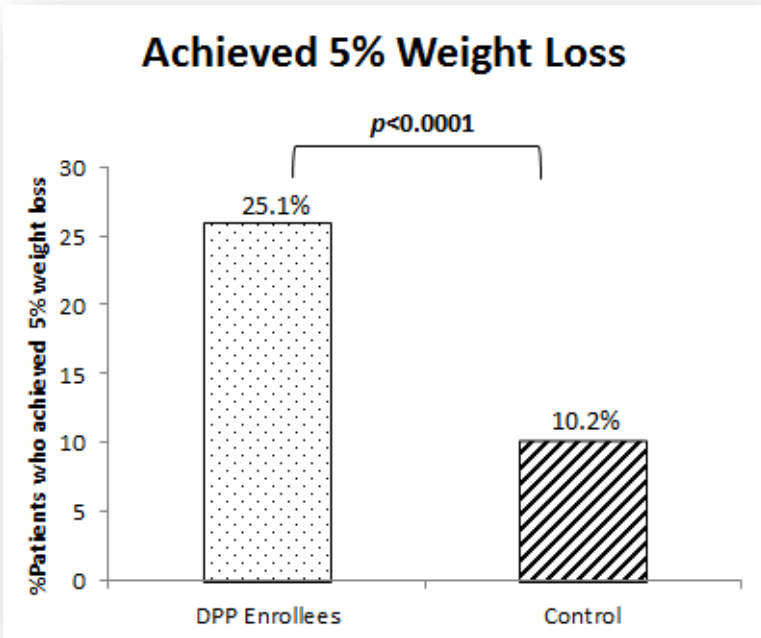
Intermountain
Institute for Healthcare Delivery Research

From Clinic to Community: A Framework for Providing Diabetes Prevention Services That Cross the Care Continuum

Kimberly D. Brunisholz, PhD; Elizabeth A. Joy, MD, MPH; Sharon Hamilton, MSN; Mark R. Greenwood, MD



Translating Research into Practice




Number Needed to Treat (NNT) – *with the IH DPP*

- 13 to achieve 5% weight loss
- 54 to prevent one case of T2DM

Diabetes Prevention Care Process Model

Care Process Model MAY 2019



Diabetes Prevention Program

2019 Update

This care process model (CPM) was created by the Prediabetes Development Team and the Office of Health Promotion and Wellness at Intermountain Healthcare. It summarizes current medical literature and, where clear evidence is lacking, provides expert advice on identifying prediabetes and preventing diabetes. In addition, this CPM outlines a systematic process for sharing accountability between clinicians, operational and clinic staff, dietitians, educators, and patients.

► WHY FOCUS ON DIABETES PREVENTION?

- Prediabetes is common and underrecognized.** In 2015, approximately one in three U.S. adults, an estimated 84.1 million people, had prediabetes. **Fewer than 13% of those with prediabetes were aware of their condition,** regardless of education level, income, insurance coverage, or healthcare use.^{CDC}
- Up to one third of people with prediabetes will progress to diabetes in three to five years.** This will increase their risk of cardiovascular disease, stroke, high blood pressure, blindness, kidney disease, nerve disease, and amputation.^{ADA} In addition, prediabetes itself is associated with early onset of neuropathy, retinopathy, microalbuminuria, and greater cardiovascular risk, suggesting that many patients with prediabetes may be already suffering adverse effects of abnormal glucose regulation.^{IAB}
- Progression to diabetes can be prevented or delayed.** In a U.S. Diabetes Prevention Program (DPP) study, patients in the **intensive lifestyle intervention** arm of the trial had a 58% reduction in the rate of conversion to type 2 diabetes over three years, and a 34% reduction at 10 years. Risk of reduction was even more pronounced among individuals age 60 and older (71% for a three-year reduction).^{ADA, KNO}
- Diabetes prevention is cost-effective.** The 10-year follow-up study of the DPP concluded that investment in lifestyle and metformin interventions for diabetes prevention in high-risk adults is very cost effective.^{HEA} With a 34% reduction in progression to diabetes, as seen in the study, healthcare systems and individuals would see significant cost savings.
- Diabetes prevention is a shared responsibility.** Intermountain has the data collection and reporting tools, clinical decision support, and team coordination to identify and engage all patients with prediabetes in our system across all population groups.

What's new in this update

- New behavioral research** gives insights into the thoughts of local patients with prediabetes regarding their own motivations, quality interventions, and the role of clinicians in diabetes prevention services. See [page 5](#).
- Messaging has been developed** and talking points are included for clinicians to use to improve patient engagement in diabetes prevention programs. See [page 5](#).

► WHAT'S INSIDE?

ALGORITHM: PREDIABETES PATIENT ENGAGEMENT AND TREATMENT . . . 2

ROLES AND RESPONSIBILITIES 4

ENGAGING PATIENTS 5

FOLLOW-UP AND SUPPORT 6

PATIENT EDUCATION 7

EVALUATION 8

REFERENCES 9

MEASUREMENT & GOALS


Intermountain is making a deliberate effort with this CPM to recommend and report on measurable outcomes that can be tied to process variations. These will provide a learning feedback loop by which process variations, outcomes results, and new research findings can be used for continuous improvement of the model.

See [page 8](#) for a discussion of measurement and evaluation and how they relate to diabetes prevention.

 Indicates an Intermountain measure



1

ADULT BEST PRACTICE FLASH CARD 

Diabetes Prevention Program

Diabetes Prevention CPM

LIFESTYLE INTERVENTION (All patients)

SCREEN at-risk adult patients

Age 40–70 with BMI ≥ 25 kg/m² (Asian descent ≥ 23 kg/m²) or
Age 18–39 with BMI ≥ 25 kg/m² AND ≥ 1 risk factor (high BP, family history, sedentary, gestational diabetes, dyslipidemia, PCOS, high-risk ethnicity)

Prediabetes?
FPG 100–125 mg/dL OR HbA1c 5.7%–6.4%

no → RESCREEN in 3 years

yes

PRESCRIBE metformin therapy (in addition to lifestyle interventions)
for patients with BMI ≥ 35 kg/m², age < 60, or with prior gestational diabetes

INVITE all patients to attend diabetes prevention program (DPP)

Patient AGREES to register for DPP?


no → PERFORM Usual care with follow-up visit in 3 to 6 months

yes

Patient CHOOSES at least one prevention pathway

- [Prediabetes 101 In-person or Online Class](#)
- [The Weigh to Health®](#) program (16-week weight loss program)
- [Medical nutrition therapy](#) (1:1 nutrition counseling)
- Online DPP from CDC (<https://www.cdc.gov/diabetes/prevention/index.html>)

PERFORM Usual care and MONITOR patient's HbA1c and/or FPG at least annually; HELP patient reassess DPP as necessary



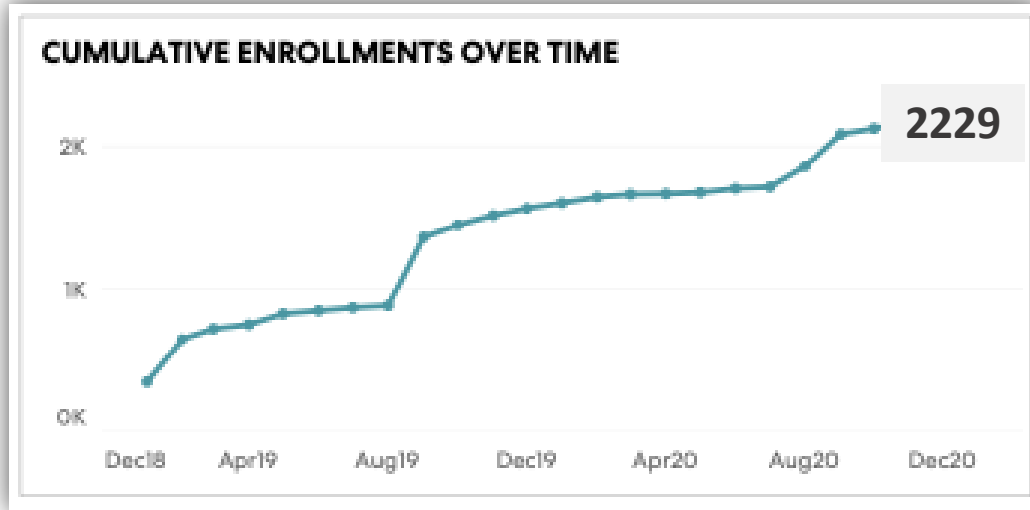
Diabetes Prevention for All

	Prediabetes 101	Medical Nutrition Therapy	Weigh to Health	Omada	Community Based DPP
Patients	X	X	X	X	X
Caregivers	X	X	X	X	X
SH Members	X	X (most)	X (most)	X	X
Community	X (group classes and online videos)		X (2021 – some scholarships available)	X (2021 – some scholarships available)	X (some scholarships available)

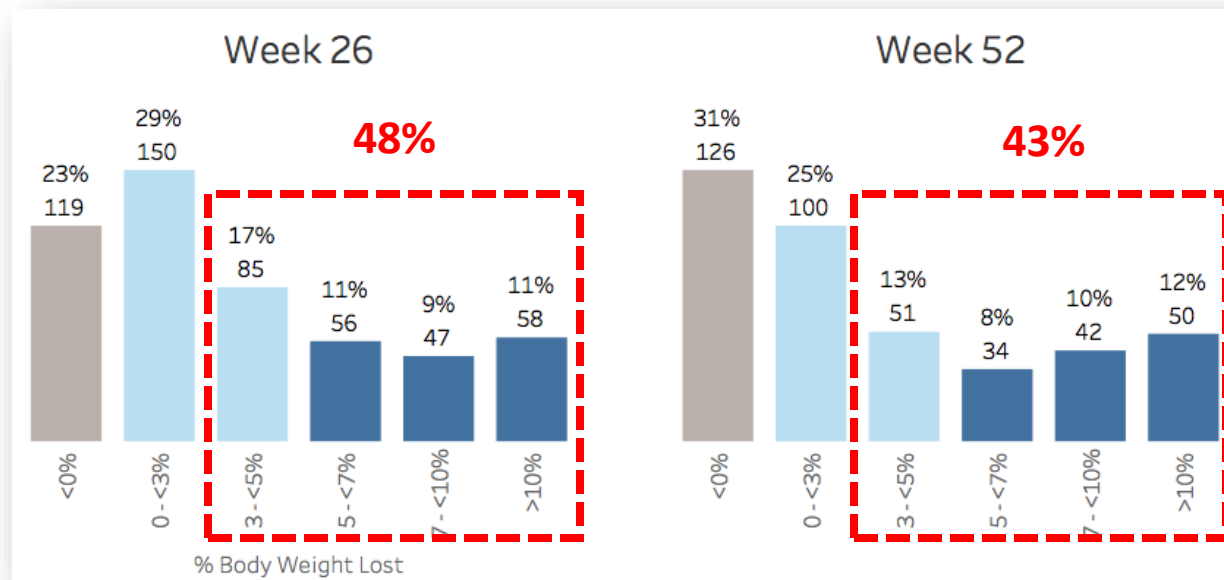


PRESS RELEASE: Intermountain Ventures Invests in Omada Health

Omada



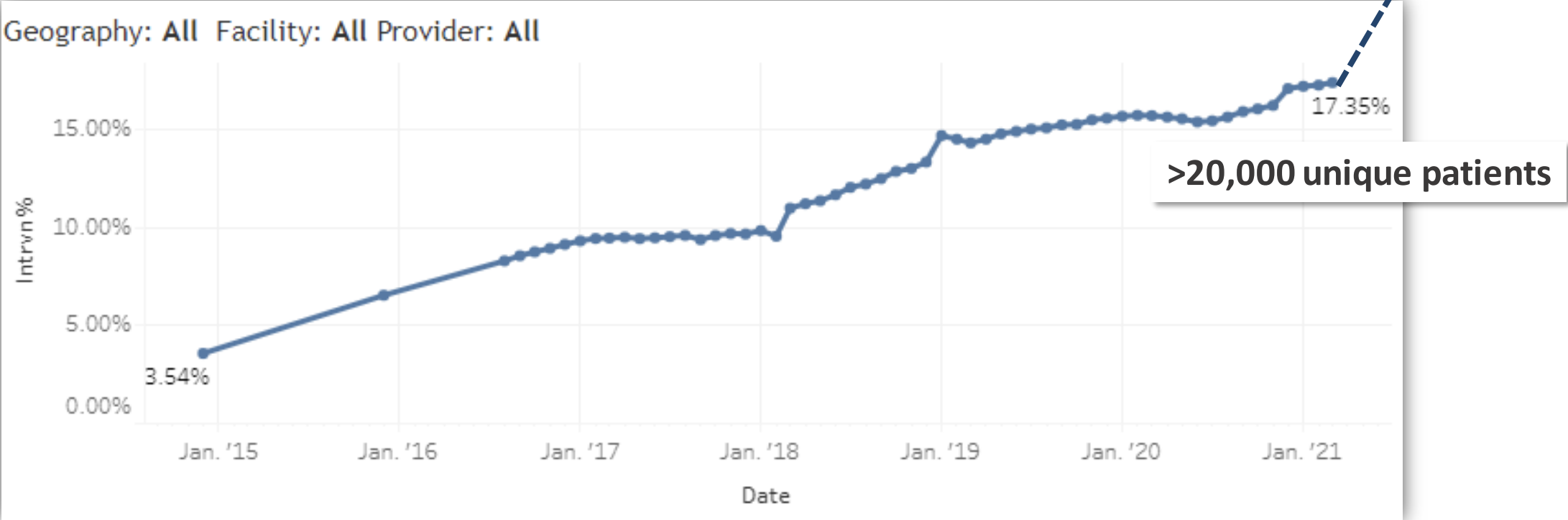
- Participants engage with the platform 30 times/week
- 58% complete at least 9 of 16 lessons (Completers)
- Participants have lost ~15,000 lbs (since Jan 2019)





SUCCESS

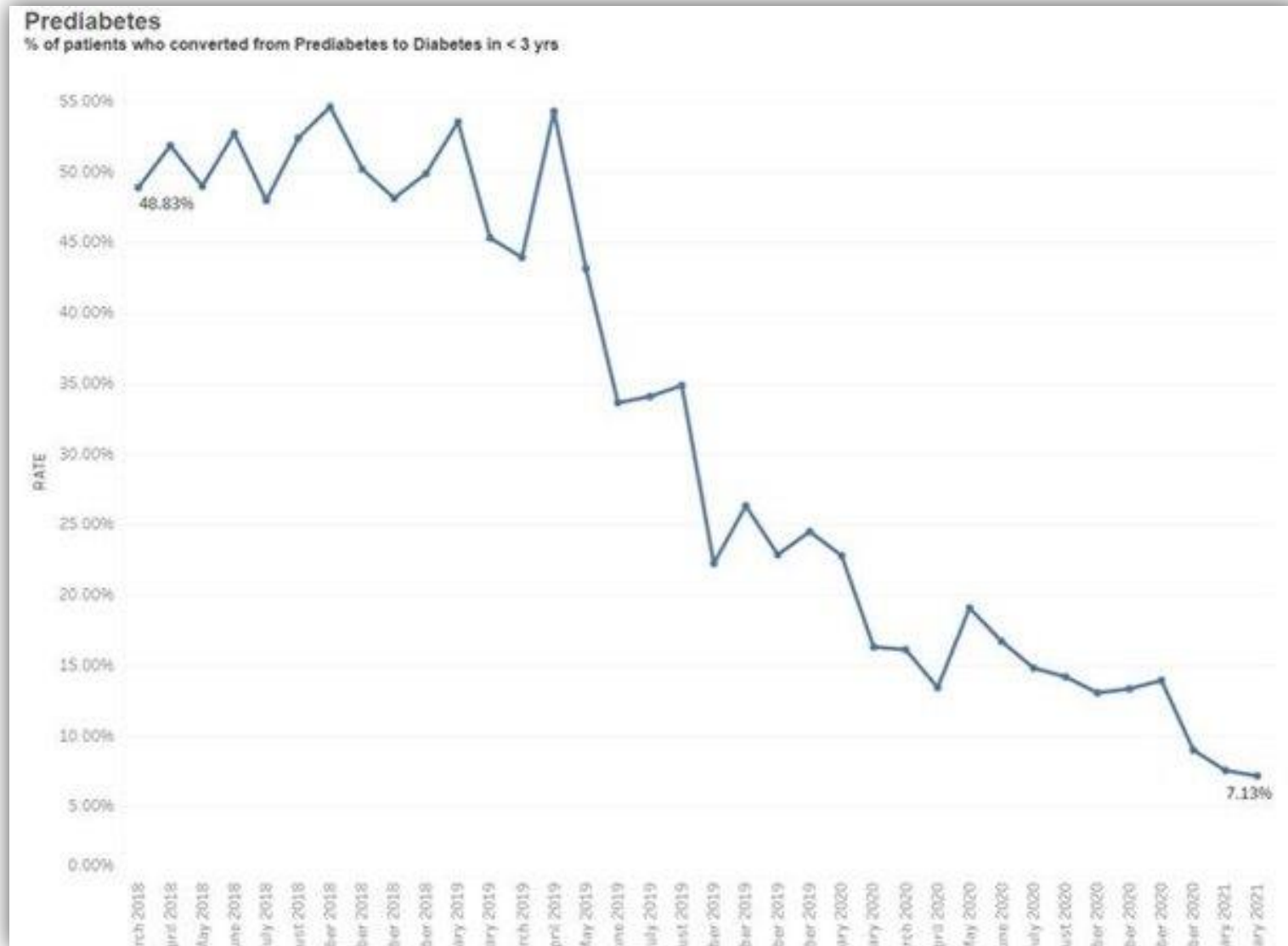
Increase the Participation in the DPP



Nationally: **2.4%** participate in DPP

Venkataramani. Am J Prevent Med 2019

Reduce the Conversion of Prediabetes to T2DM



Reduce the Cost of Care Associated with Diabetes

SelectHealth PMPM Spend 2019



Diabetes Prevention Quality Improvement Measures

- **Measure #1 Screening Rates** - Denom: Age 40-70 w/BMI ≥ 25 ; Numerator: A1c or FPG
- **Measurement #2 Referral Rates (orders)** - Denom: Those positively screened (Lab Confirmed) OR Problem List OR Diagnosis; Numerator: Those with order for W2H, MNT or PreDM 101
- **Measurement #3 Metformin:** Denominator: BMI ≥ 35 , age < 60 , prior GDM (any one), remove patients with a disqualifying exclusion (exclusions chronic liver disease, alcoholism (active problem), egfr < 30 (all lifetime exclusions)); Numerator: those ordered or given Metformin
- **Measurement #4 Participation rates** - Two measures:
 - #4a / Measurement1: Denominator: Those that were ordered an intervention; Numerator: Those that participated in W2H, MNT, 101 (Patient adherence)
 - #4b / Measurement 2: Denominator: Match Referral Denominator; Numerator: Those that participated in W2H, MNT, 101 or Omada



JAMA | Original Investigation

Presenting Characteristics, Comorbidities, and Outcomes Among 5700 Patients Hospitalized With COVID-19 in the New York City Area

Safiya Richardson, MD, MPH; Jamie S. Hirsch, MD, MA, MSB; Mangala Narasimhan, DO;
James M. Crawford, MD, PhD; Thomas McGinn, MD, MPH; Karina W. Davidson, PhD, MASc;
and the Northwell COVID-19 Research Consortium

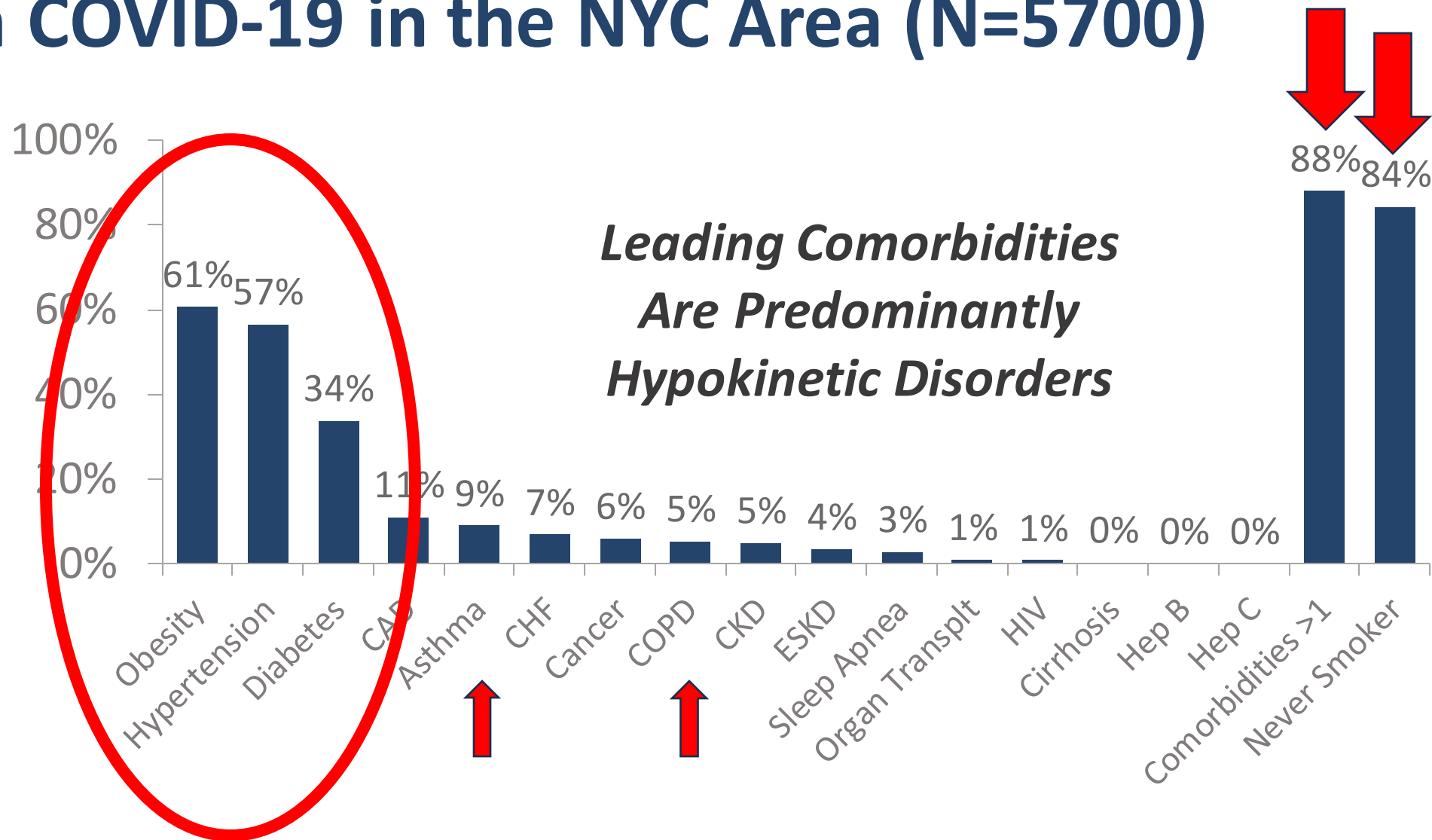
Key Points

Question What are the characteristics, clinical presentation, and outcomes of patients hospitalized with coronavirus disease 2019 (COVID-19) in the US?

Findings In this case series that included 5700 patients hospitalized with COVID-19 in the New York City area, **the most common comorbidities were hypertension, obesity, and diabetes.** Among patients who were discharged or died ($n = 2634$), 14.2% were treated in the intensive care unit, 12.2% received invasive mechanical ventilation, 3.2% were treated with kidney replacement therapy, and 21% died.

Meaning This study provides characteristics and early outcomes of patients hospitalized with COVID-19 in the New York City area.

Comorbidities of Initial Patients Hospitalized with COVID-19 in the NYC Area (N=5700)



Physical inactivity is associated with a higher risk for severe COVID-19 outcomes: a study in 48 440 adult patients

Robert Sallis ¹, Deborah Rohm Young,² Sara Y Tartof,² James F Sallis,³ Jeevan Sall,¹ Qiaowu Li,² Gary N Smith,⁴ Deborah A Cohen²

- Patients with COVID-19 who were consistently inactive during the 2 years preceding the pandemic were more likely to be hospitalised, admitted to the intensive care unit and die than patients who were consistently meeting physical activity guidelines.
- Other than advanced age and a history of organ transplant, physical inactivity was the strongest risk factor for severe COVID-19 outcomes.

Extracellular superoxide dismutase, a molecular transducer of health benefits of exercise

Zhen Yan^{a,b,c,d,*}, Hannah R. Spaulding^a

Redox Biology 2020

NEWS RELEASE 15-APR-2020

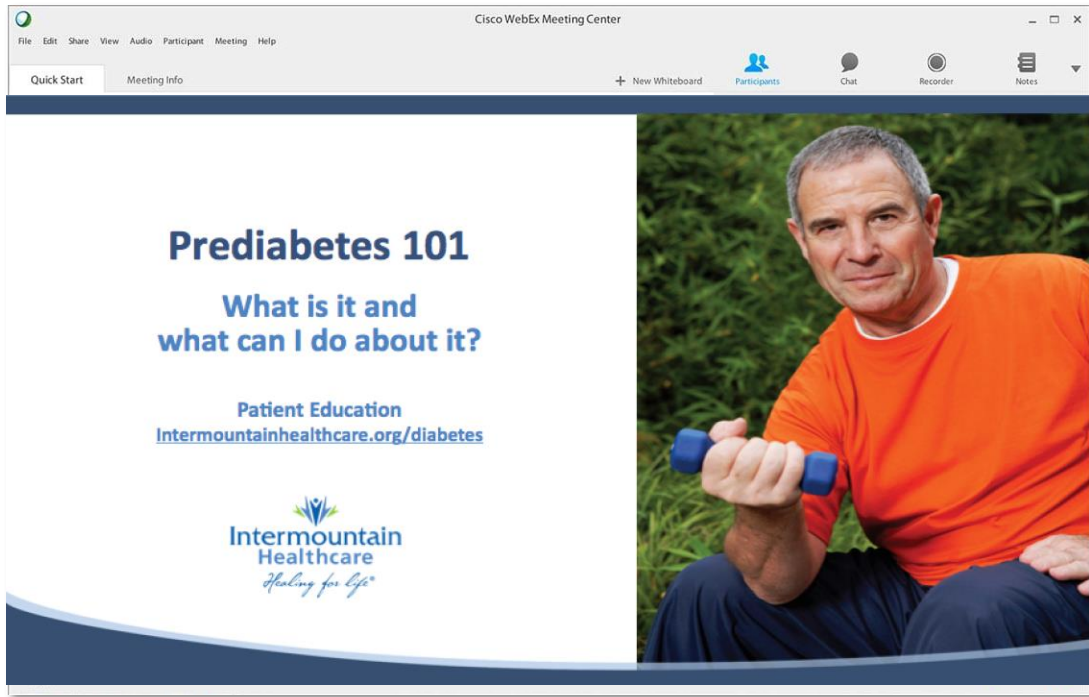
COVID-19: Exercise may protect against deadly complication

May prevent or reduce severity of acute respiratory distress syndrome

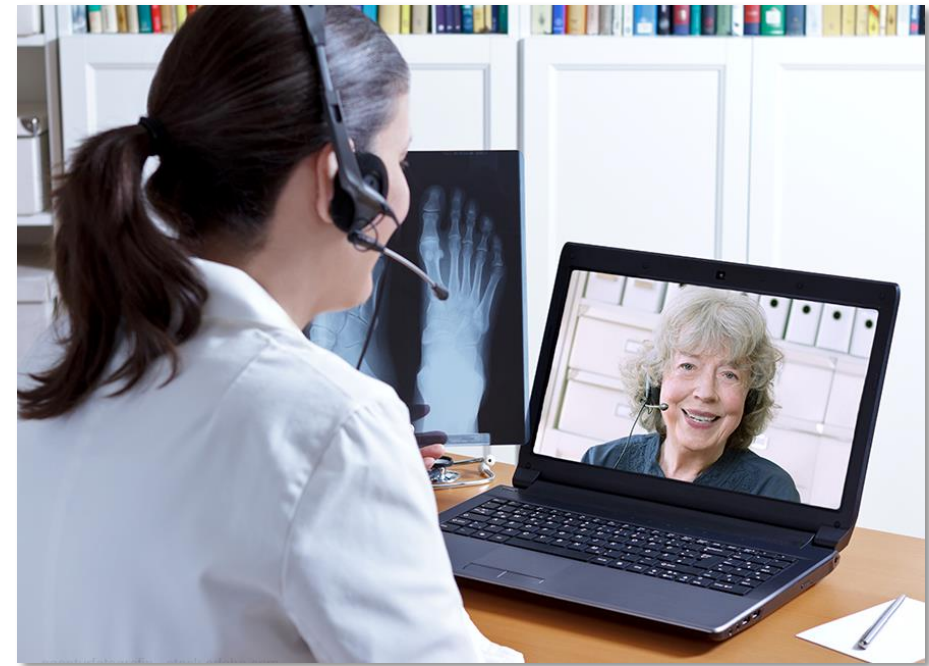
UNIVERSITY OF VIRGINIA HEALTH SYSTEM

Virtual Resources





Prediabetes 101



Medical Nutrition Therapy



Omada DPP

The Next Pandemic.....



On average, a Panda feeds for approximately 12 hours per day.

This is the same as an adult at home under quarantine, which is why we call it a "Pandemic"

Current diabetes prevalence

30,000,000 people

9% of the population

95% T2DM

By 2030

55,000,000 people

will have diabetes

Estimated cost

\$622,000,000,000

Now more than ever.....

PREVENT
DIABETES