BACK TO SCHOOL: HOW HEALTH CENTERS CAN ADDRESS DIABETES RISK

February 11, 2020

Learning Objectives

- Describe strategies to optimize health center staff roles to partner with schools to address diabetes risk factors in elementary school children

- Describe two evidence-based programs for preventing diabetes in elementary aged children that health centers can bring to schools

Reminders

- All attendees are in listen-only mode.
- We want to hear your questions! To ask a question during the session, use the “Chat” icon that appears on the bottom your Zoom control panel.
- Please complete evaluation poll questions at the end of the presentation.

We Believe…

In the transformational power of the health and education intersection

National Nurse-Led Care Consortium (NNCC)

A membership organization that supports nurse-led care and nurses at the front lines of care.

NNCC provides expertise to support comprehensive, community-based primary care.

- Policy research and advocacy
- Technical assistance and support
- Direct, nurse-led healthcare services

Type 2 Diabetes Mellitus (T2DM) and Prediabetes Among Children and Teens: Increasingly Prevalent in the US

- Before 1990, T2DM among children and teens was almost unknown; still uncommon, but a growing problem
- Prediabetes in children and teens rising
- Nearly one in five (18%) youth met criteria for pediatric prediabetes
- School-wide focused approaches in high-risk areas address environmental risks for *everyone*

SCHOOL-BASED HEALTH ALLIANCE
Redefining Health for Kids and Teens

Risk Factors for Pediatric Diabetes

- Obesity
- Race/ethnicity
- Socio-economic status, including neighborhood factors

Why is Screening in Elementary School Important?

- Identify children who may have T2DM but no/low symptoms
- Identify children with pre-diabetic conditions
- Identify children and schools at increased risk
  - Provide interventions at individual, family, and school or community level

Why Collaborate With Schools?

Health centers, in collaboration with schools can play a powerful role in performing appropriate screening, prevention, and management of elementary-aged children with obesity and other pre-diabetic indicators.

Collaboration Types with Schools

- School-based health care services
  - Targeted interventions for students with pre-diabetic indicators
  - School-wide interventions to prevent diabetes

- School-based health centers

- A **school-based health center** is a shared commitment between a community's schools and health care organizations to support students' health, well-being, and academic success by providing preventative, early intervention, and treatment services where students are: in school.

Types of Primary Care Providers in SBHCs

2020 is the Year of the Nurse

#YearOfTheNurse

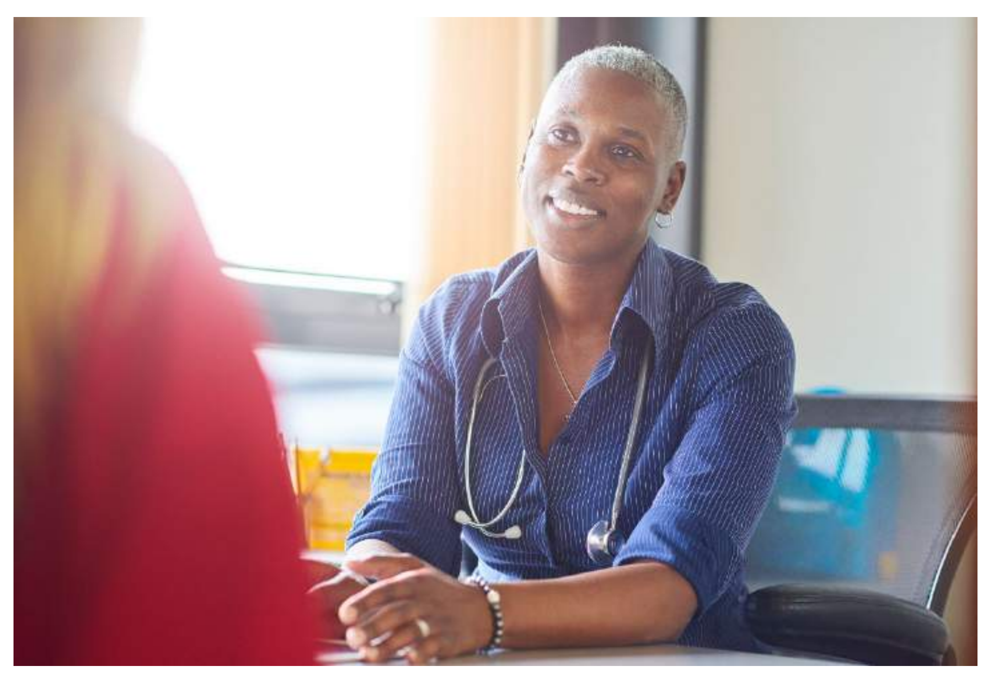
2020

Nurse-Led Care

Nursing and Population Health

WHAT IS NURSING?

Nursing is the protection, promotion, and optimization of health and abilities, prevention of illness and injury, facilitation of healing, alleviation of suffering through the diagnosis and treatment of human response, and advocacy in the care of individuals, families, groups, communities, and populations (*American Nurses Association, 2015*).



The Nurse Workforce is Growing

Role Growth at Health Centers
2012-2018

Role	Growth
All physicians	28%
Physician assistants	40%
Nurse practitioners	106%
Certified nurse midwives	29%
Other nurses	47%

Optimizing the Nurse Role

In Health Centers

- Focus on population health and partnership development
- Expand role for MAs and other staff to screen and coordinate with nurse leaders
- Collaborate with health center leadership to improve data sharing between health centers and schools

In Schools

- School nurses are "at the epicenter of what kids bring to schools"
  - Social/economic factors
  - 1 in 4 children present with a chronic condition
- Work in conjunction with health centers to promote population health

Cultivating Nurse Leaders

Ask yourself and your team….

- Could nurses (RNs/APRNs) serve as clinical champions for prevention programs (like MEND and WeCan)?
- How can nurse leadership optimize and enhance the practice, experience, and capabilities of other roles?
- How are school nurses incorporated as partners?

References

1. Patricia Pittman. Activating Nursing to Address Unmet Needs in the 21st Century. Robert Wood Johnson Foundation. Princeton NJ. March 12, 2019.
2. 2012-2018 UDS data analysis
3. Cogan, Robin. Presentation. Philadelphia Town Hall, University of Pennsylvania School of Nursing, July 24, 2019.
4. National Association of School Nurses. (2017). Students with chronic health conditions: The role of the school nurse (Position Statement). Silver Spring, MD.
5. The Relentless School Nurse. https://relentlessschoolnurse.com/

Evidence-Based Programs

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Thank you!

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Back to School: How Health Centers Can Address Diabetes Risk

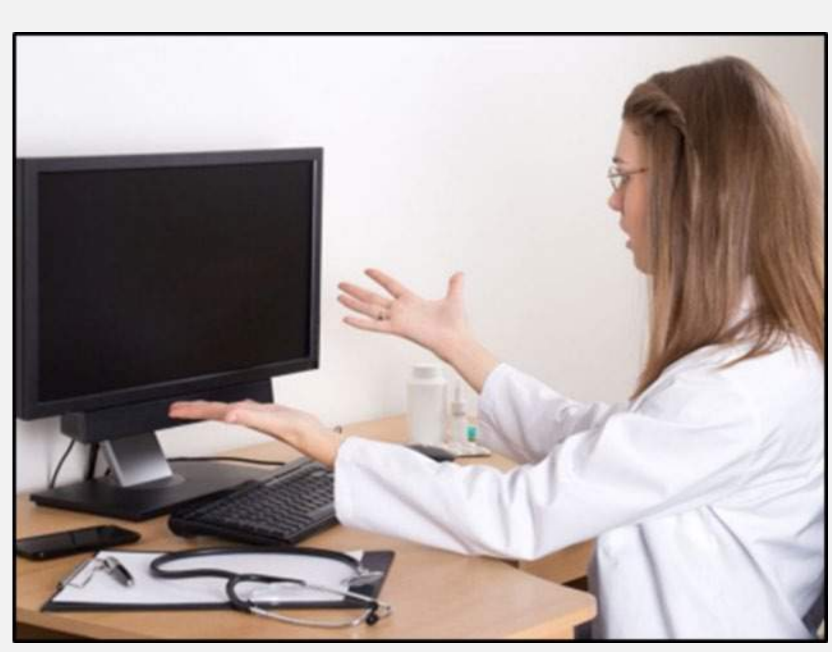
MEND at Denver Health

Jessica Wallace, MPH, MSHS, PA-C

Why should schools and health centers work together to provide family weight management programs (and help support healthy weight)?

The US Preventive Services Task Force (USPSTF) recommends that clinicians screen for obesity in children and adolescents 6 years and older and offer or refer them to comprehensive, intensive behavioral interventions to promote improvements in weight status.

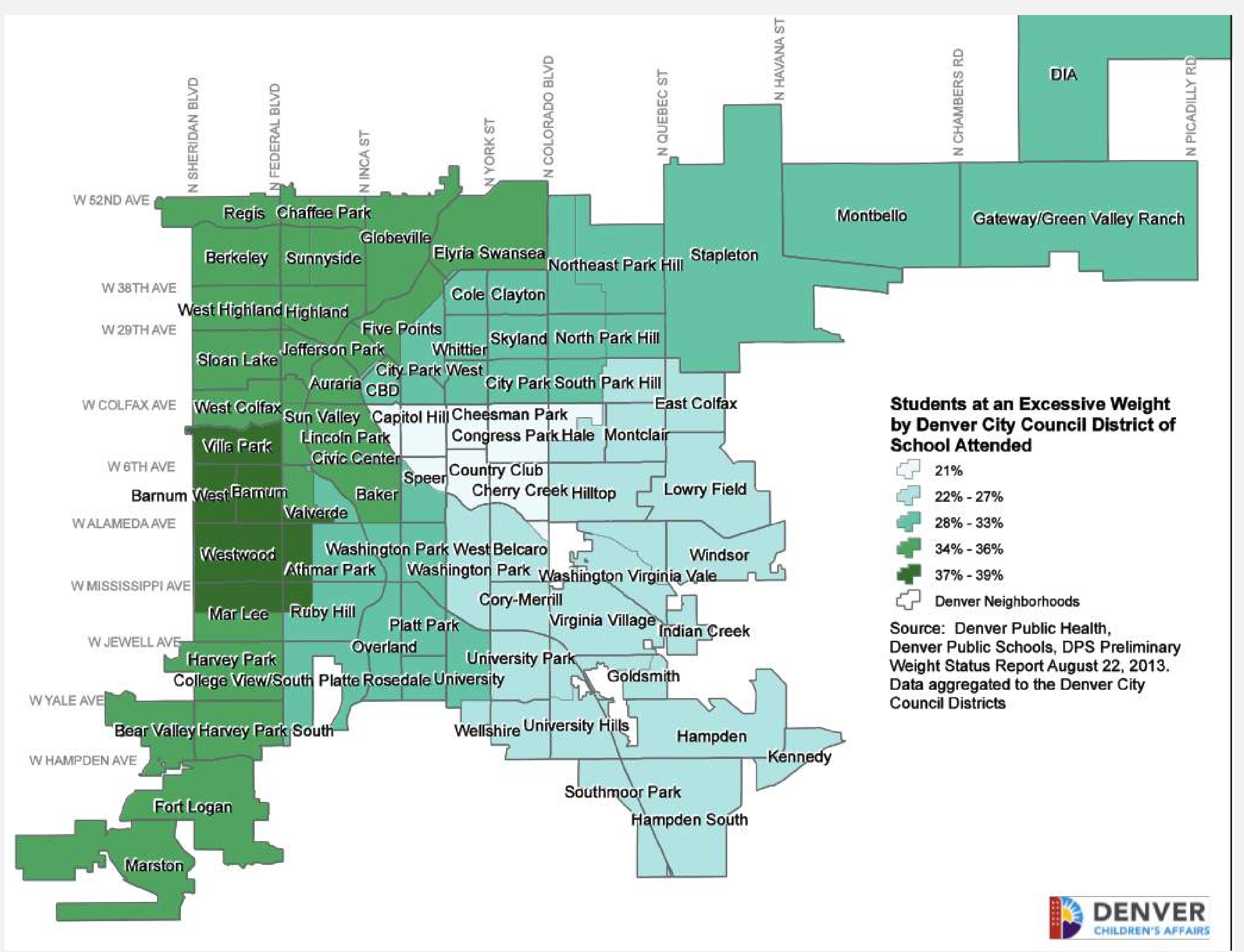
(B recommendation). JAMA. 2017; 317 (23): 2417-2426.



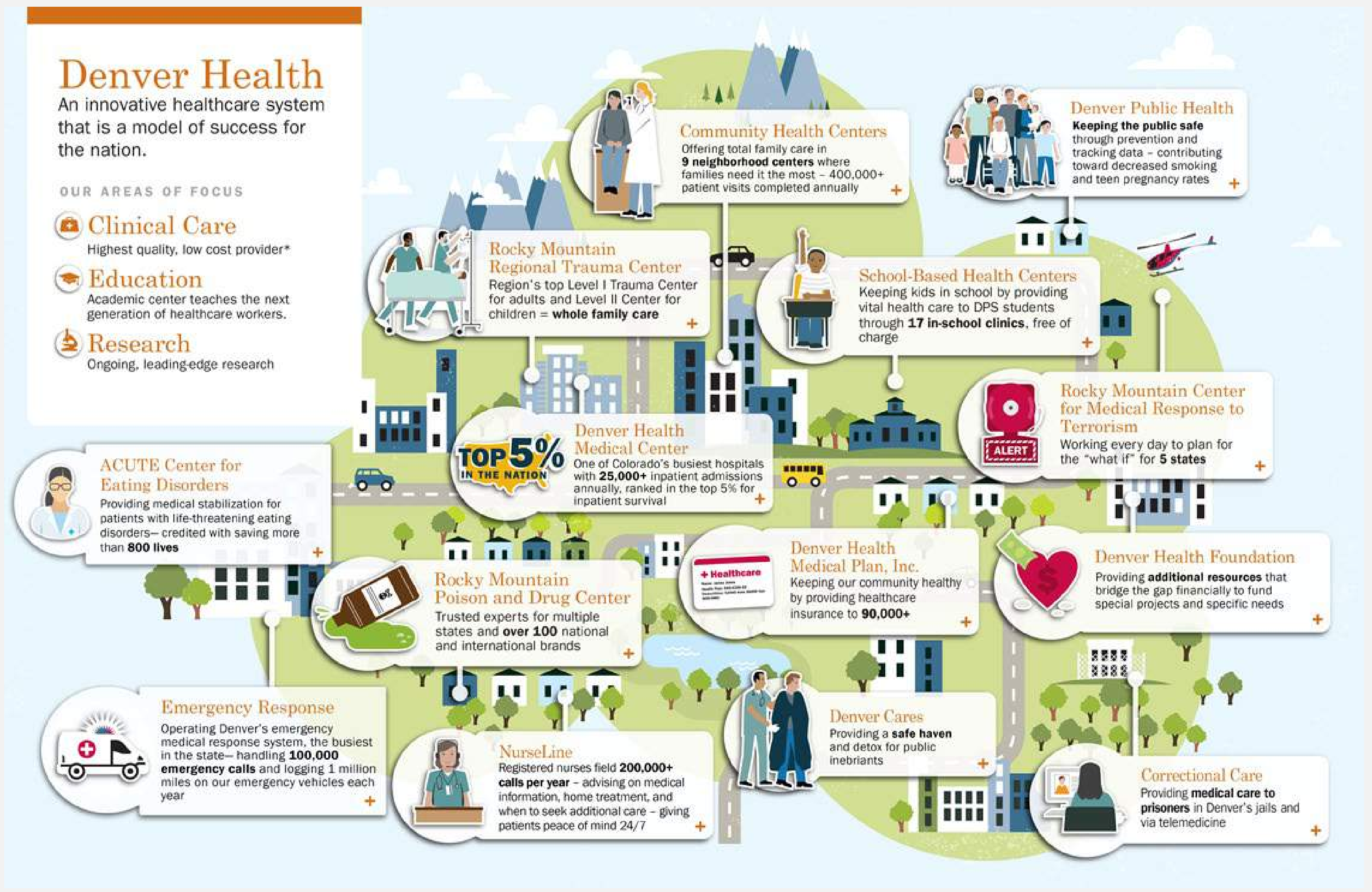
Prevalence of Self-Reported Obesity Among U.S. Adults by State and Territory, BRFSS, 2017

- <20%
- 20%-<25%
- 25%-<30%
- 30%-<35%
- ≥35%
- Insufficient data*

Poverty = poverty = poverty



Safety-Net Health Care Organization



What is MEND?

MEND 7-13: a family-centered intervention

10 weeks, twice weekly, 2 hours each session

Who	First hour	Second hour
Parents	Mind and Nutrition	Parenting discussion
Children		Exercise

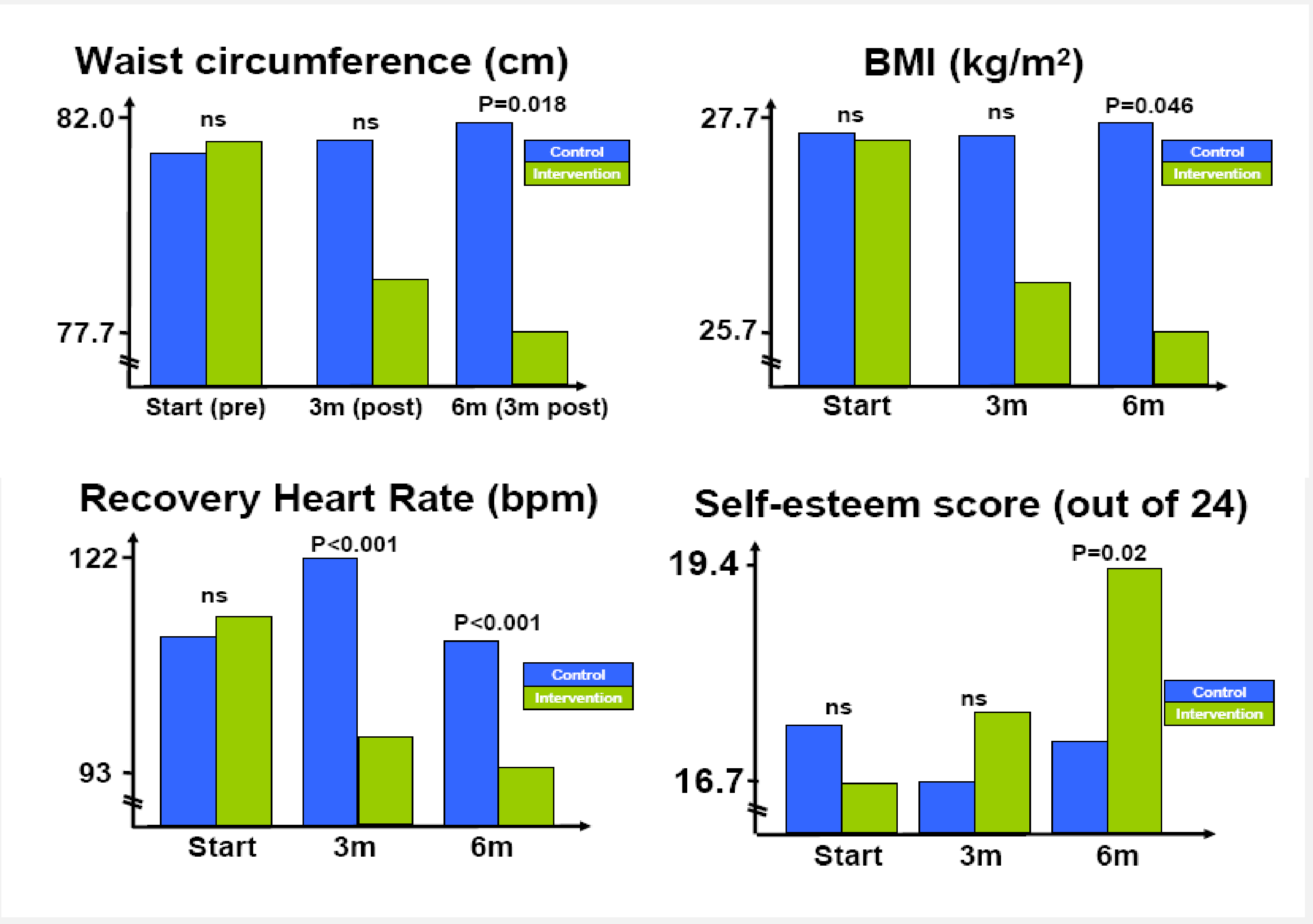
Out-of-the-box program

High-impact teaching tools

Practical application: grocery store tours

Children's physical activity

MEND 7-13 RCT: Three month outcomes improved at six months



Sacher et al, Obesity, 2010

US reach and demographics: 2008-2017

n	6,713
Hispanic origin	73%
African American	17%
SES: <200% FPL	83%
SES: single parents	30%
SES: ≤ HS education	51%
Medicaid	41%
Uninsured	17%

Change in health-related behaviors

	Before MEND	After MEND
60 minutes physical activity/day	52%	81%
Change in physical activity after MEND 7-13	+4.5 hrs / week	
Sedentary for more than 2 hours/day	20%	8%
Change in sedentary behavior after MEND 7-13	-2.8 hrs / week	
Sugar-sweetened beverages a few times/day	10%	2%
Rarely consumed sugar-sweetened beverages	25%	43%
> 5 servings fruit and vegetables/day	21%	40%
< 2 servings fruit and vegetables/day	16%	5%

Cardiovascular fitness (recovery heart rate after step test)	-4.5 bpm
Participants decrease or reduce BMI z-score after MEND 7-13	83%

All results are highly statistically significant (all $p < 0.0001$)

Weight is a family issue: Parental baseline BMI and change after MEND

Mean = 33.01
Std. Dev. = 6.507
N = 4,355

Frequency

Parent BMI (kg/m2)

Parental weight status	%
Underweight	0%
Healthy weight	10%
Overweight	25%
Obese	65%

67% of parents maintained or reduced their BMI

Implementation in a clinical setting

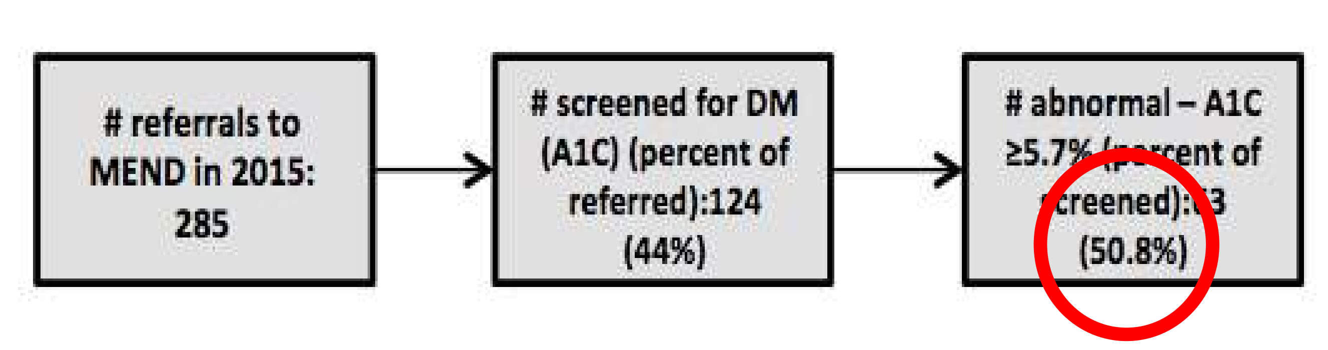
Demand

- 21,000 overweight/obese children (35.8%)
- Large numbers of MCD, minority/Latino, all <200% FPL

Access/barriers

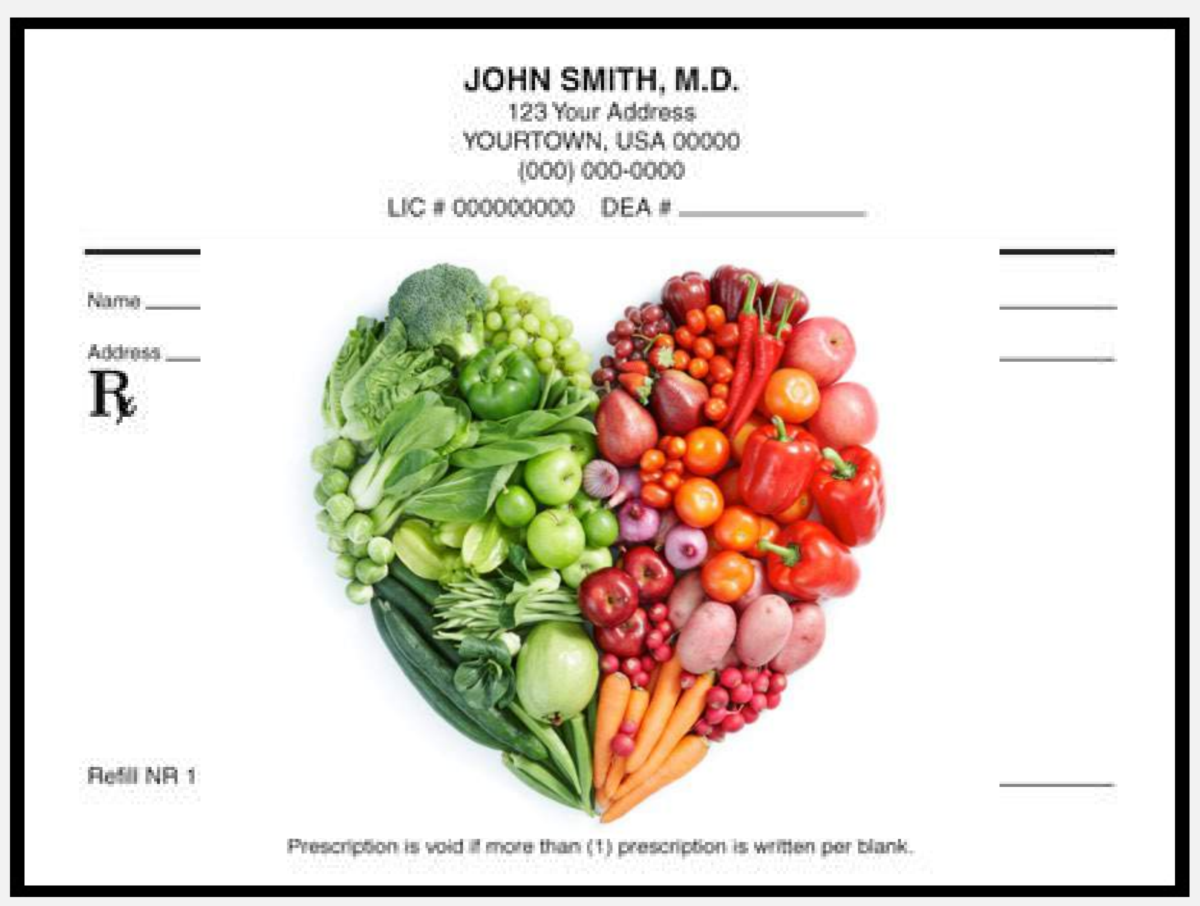
- Despite other child weight management programs in community settings in Denver, few patients were actually participating, and little info on those who did participate.
- How can we best comply with USPSTF **guidelines?**

Our kids (and families) are sick



- 14% elevated cholesterol
- 12% elevated ALT
- 22% elevated BP

January 2015 – grant funding:
Integrate MEND into FQHCs



Referral from PCP to program in a familiar setting (medical home)

School-Based Health Center connection (and hooray for nurses!)

- Champion the program for families
- Know which kids would benefit from program, and provide insights into family challenges and opportunities
- Linkages between school and clinic

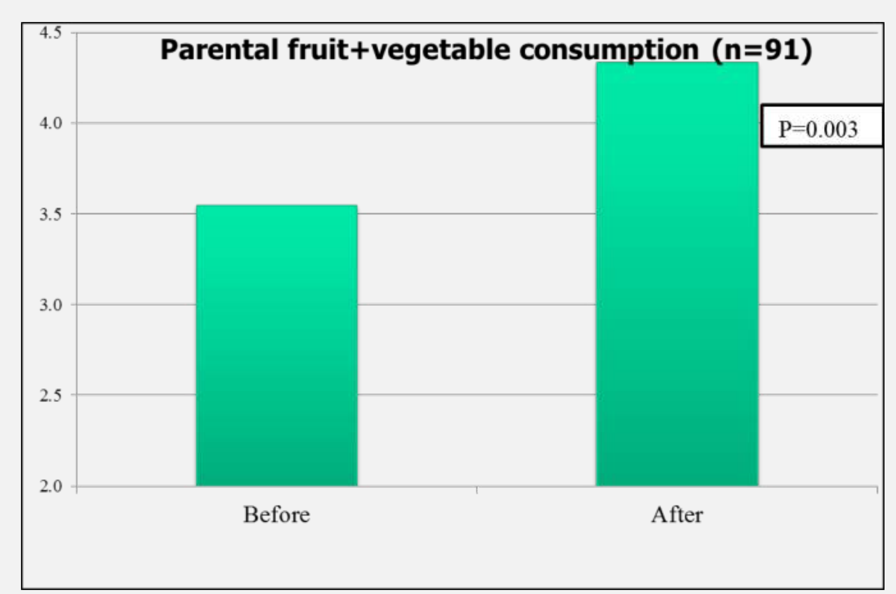
MIND
EXERCISE
NUTRITION
...DO IT!

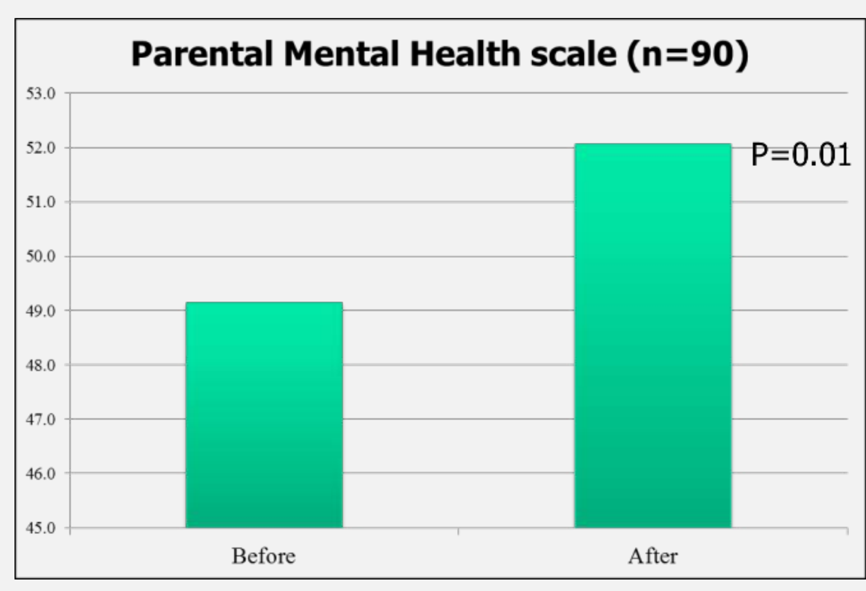
Grocery store tours

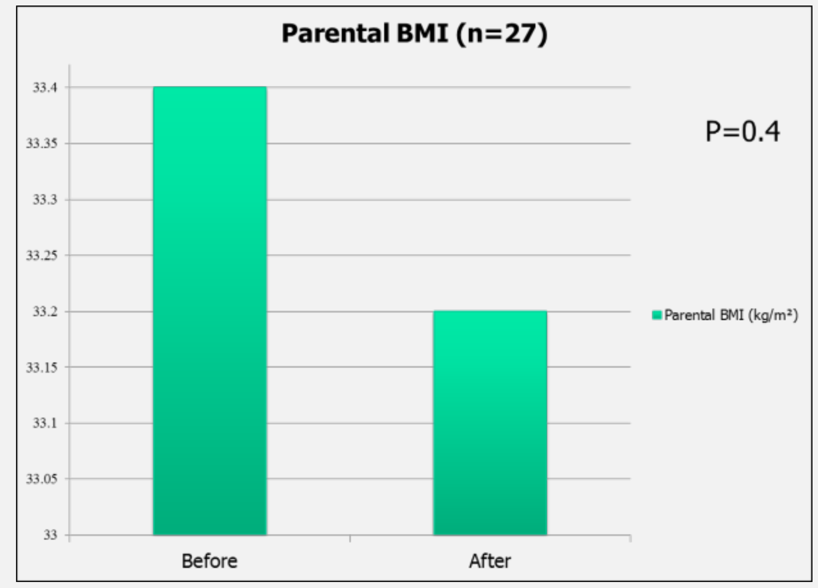
2015-2016 outcomes:

		Before MEND		After MEND		Before vs After MEND			
	N	Mean	SD	Mean	SD	Change	Lower CI	Upper CI	p-value
BMI (kg/m2)	65	26.5	4.6	25.8	4.6	-0.8	-1	-0.5	<0.001
BMI z-score	65	2	0.43	1.88	0.49	-0.12	-0.16	-0.07	<0.001
Waist circumference (inches)	67	34.9	4.7	34.5	4.6	-0.4	-0.8	0	0.07
Physical activity (hours/week)	77	6.5	6.6	11.4	6.3	4.8	3.1	6.6	<0.001
Sedentary activities (hours/week)	73	6.4	6.7	3.7	3.2	-2.7	-4.3	-1.1	0.002
Heart rate (beats per minute)	80	104.5	13.5	94.5	12.4	-10	-14	-6	<0.001
Nutrition score (score 0-28)	72	16.8	4.4	21.5	3.8	4.7	3.5	5.9	<0.001
Total Difficulties (score 0-40)	69	11.6	6	10.1	5.9	-1.5	-2.7	-0.3	0.01
Body Image (score 0-24)	73	12.2	5.8	14.5	6.1	2.3	1.4	3.2	<0.001

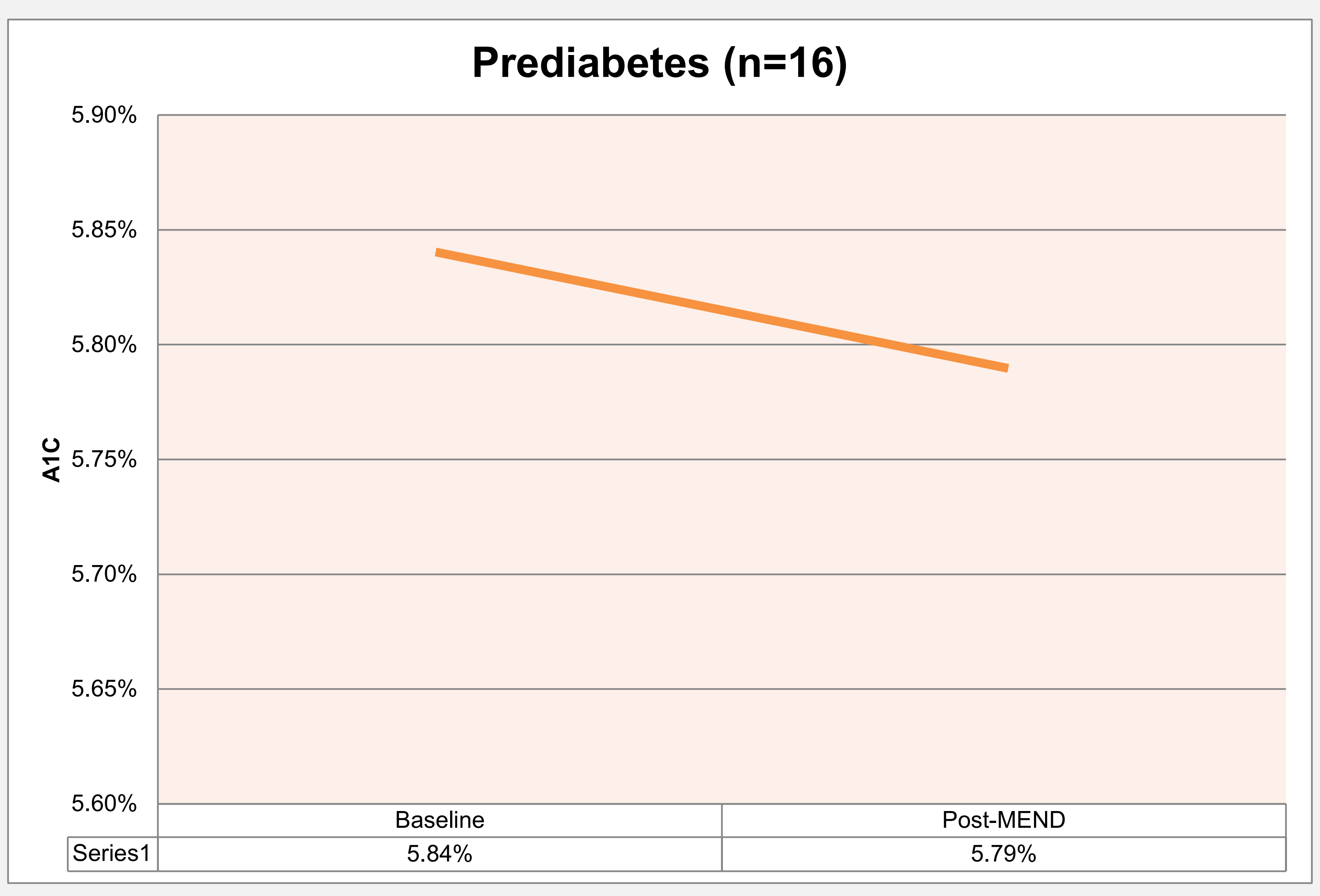
Adult/ parent impact



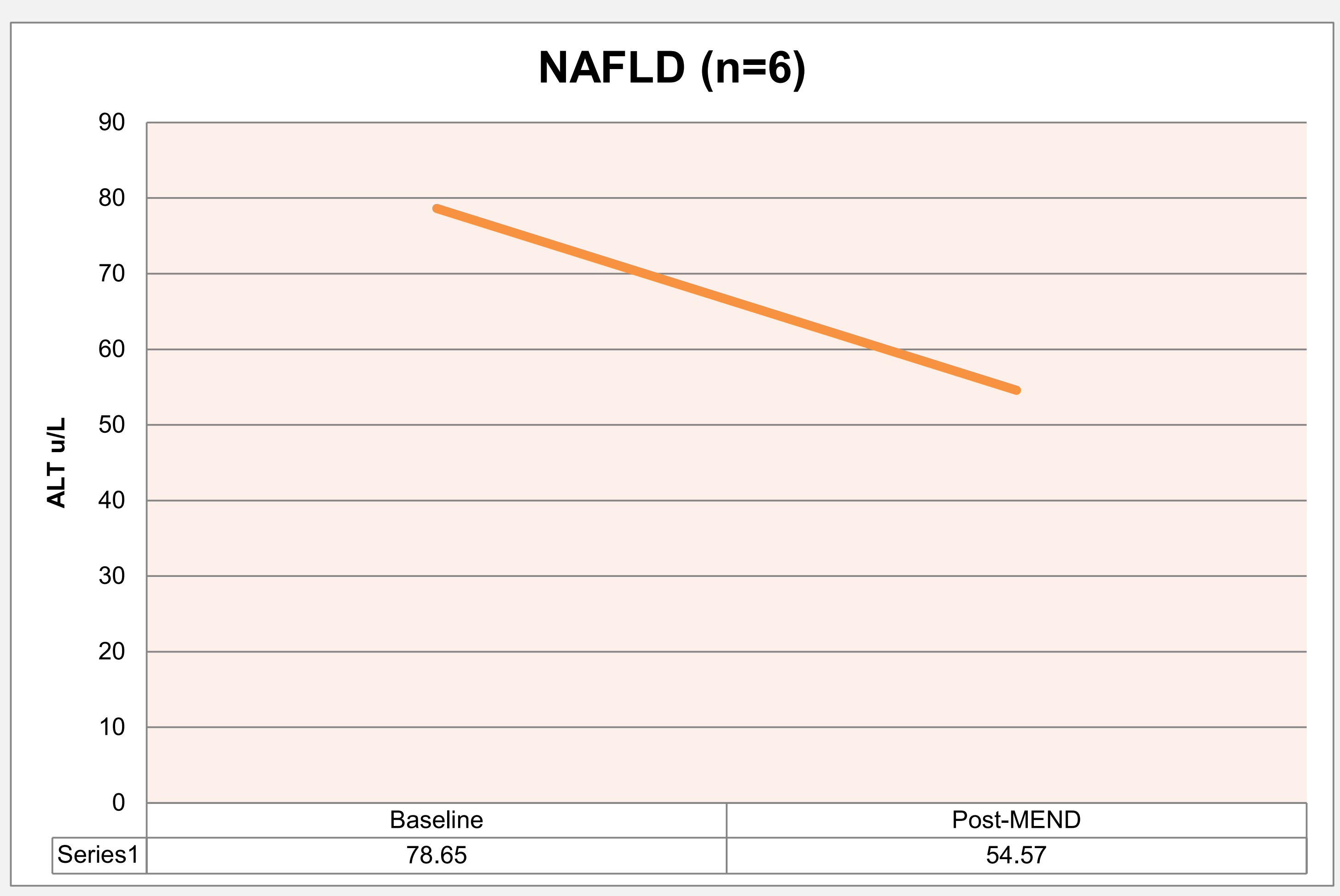


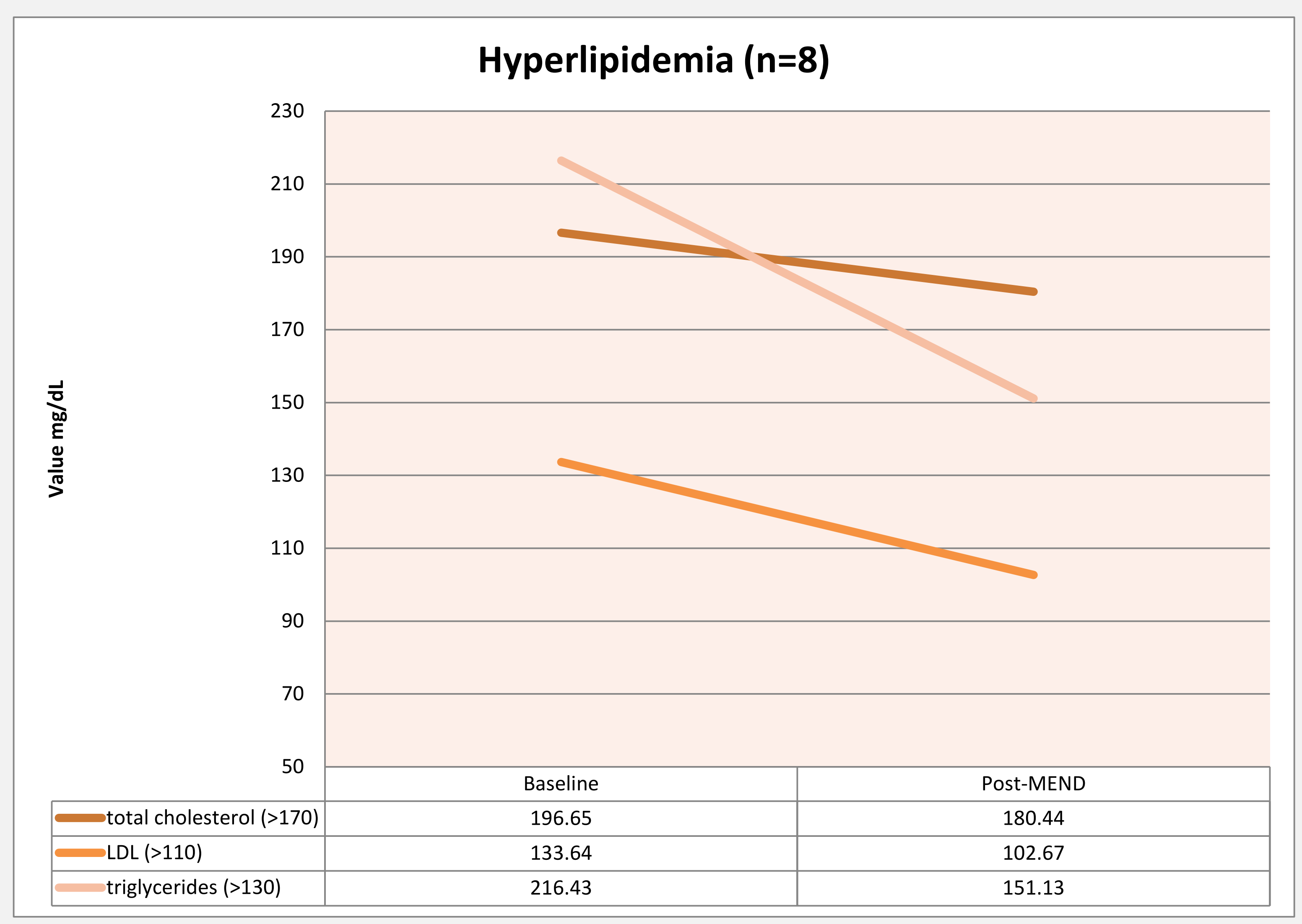


Risk reduction – lab changes:



Fatty liver disease

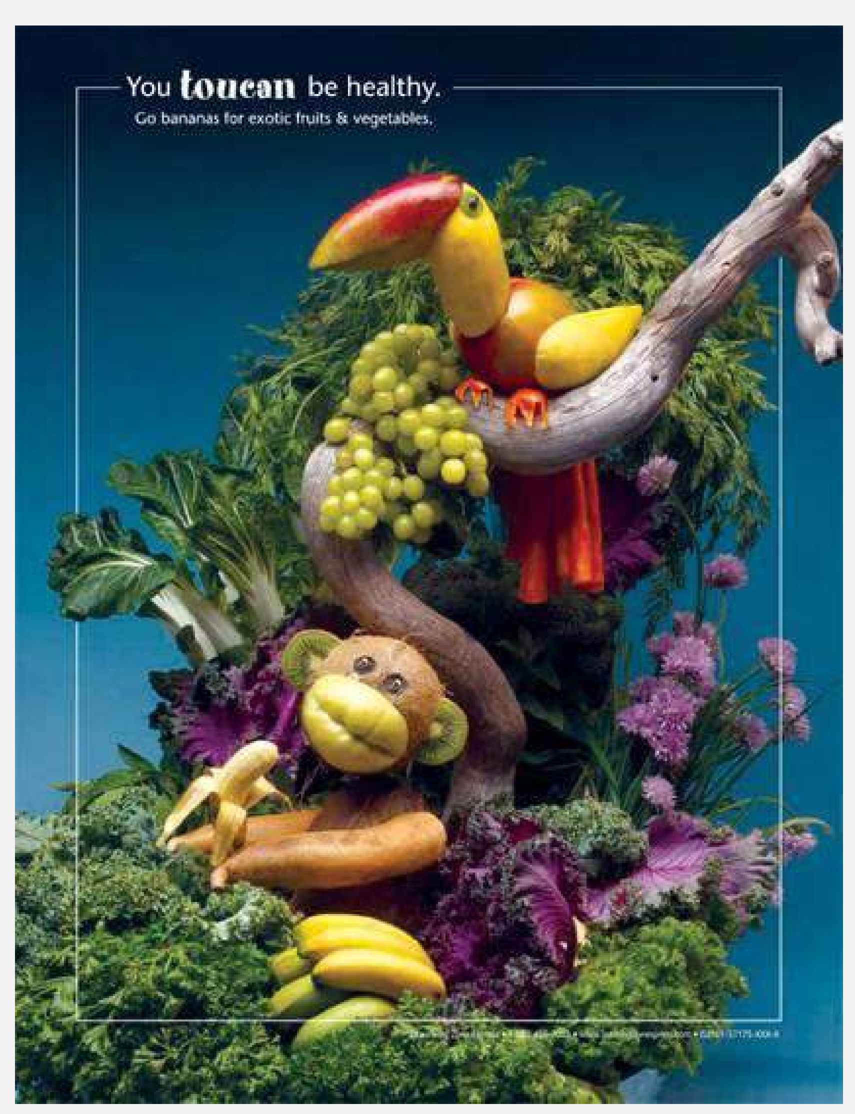



Hyperlipidemia (n=8)
Value mg/dL
230
210
190
170
150
130
110
90
70
50
Baseline
Post-MEND
total cholesterol (>170)
196.65
180.44
LDL (>110)
133.64
102.67
triglycerides (>130)
216.43
151.13

What about diabetes risk?

"In youth with prediabetes-range A1c, BMI stabilization was associated with improvement of glycemia."

K. Love-Osbourne, Pediatric Diabetes, 2017.



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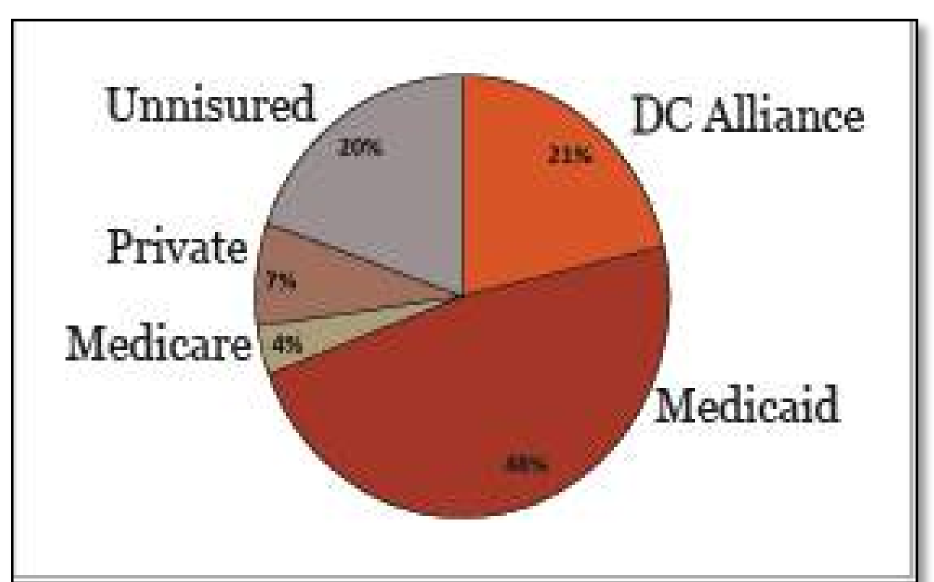
Information on MEND:
https://healthyweightpartnership.org

YES, WE CAN! INTEGRATING COMMUNITY AND PRODUCE RX INTO WELLNESS GROUP VISITS

James Huang, MD, FAAFP

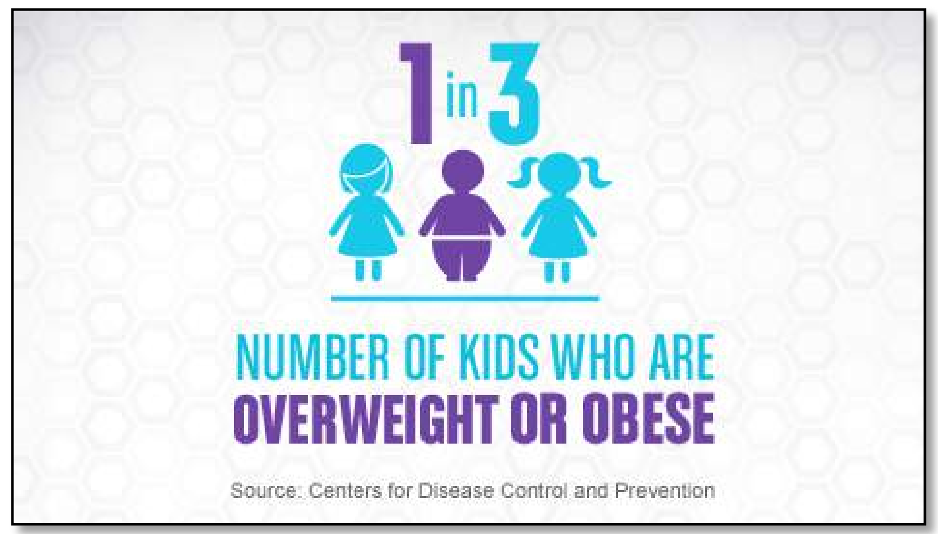
Washington DC

- Unity Health Care, Inc.
  - D.C.'s largest network of community health centers
  - Upper Cardozo Health Center

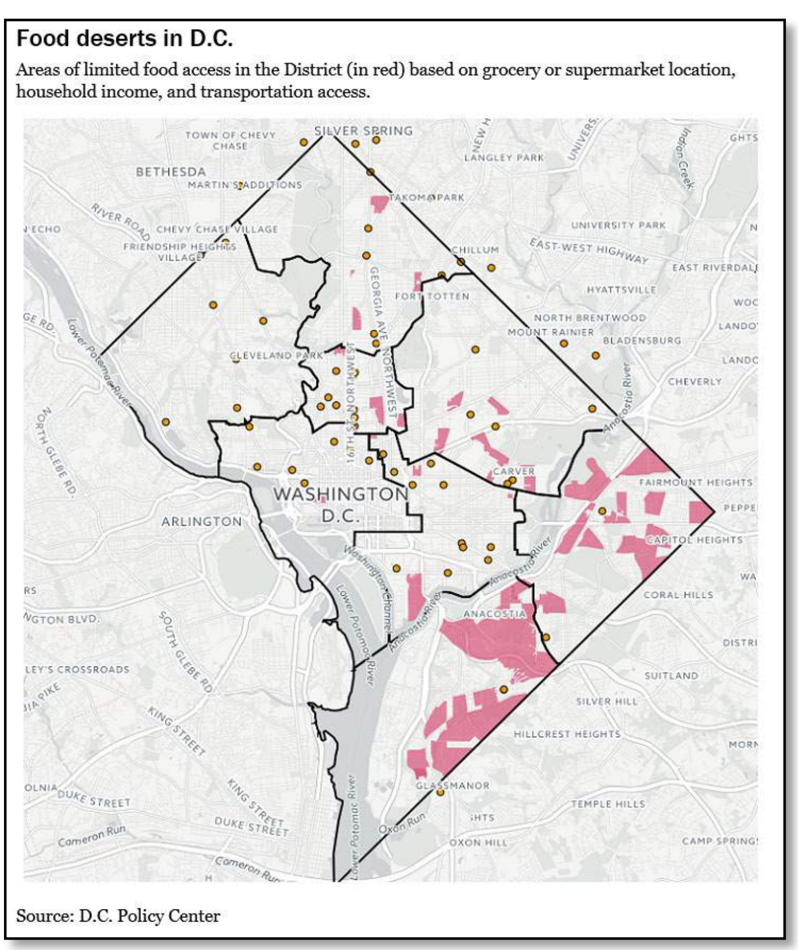


Population

In Washington, D.C., nearly one in three children is overweight or obese, and many low-income families face barriers to accessing healthy foods



Food Insecurity



1 out of 10 residents of the metropolitan Washington region is food insecure. Nearly ⅓ of them are children.

unityhealthcare.org

Intervention

Group wellness visits that engage families are a promising intervention for addressing chronic illnesses and improving health outcomes

History of Program Development

- 2008 - adapted NHLBI *WeCan!* curriculum
- Growth through partnerships with community organizations
  - Fruit & Vegetable Prescription Program (Produce Rx)

Program Structure

- Child/family referred by provider
- Weekly drop-in class/group visit, year round, bilingual
- Team: registration clerk, medical assistants, providers, and learners
- Register and vitals taken from 5-6pm
  - Unstructured play, healthy snacking (fruits/veggies)
- Brief 1:1 with clinician, documented in EMR
  - review health knowledge & behavior
  - financially sustainable, clinical session for provider
- Nutrition & Physical Activity for 90 minutes
- Usually 5-15 families per class

Wellness Group Visit at Unity

- Collaborative effort that focuses on:
  - Engaging families
  - Healthy eating on a budget
  - Promoting physical activity
  - Connecting families to community resources

Body mass index-for-age percentiles: Boys, 2 to 20 years

A 10-year-old boy with a BMI of 23 would be in the obese category (≥ 95th percentile).

A 10-year-old boy with a BMI of 21 would be in the overweight category (85th – < 95th percentile).

A 10-year-old boy with a BMI of 18 would be in the healthy weight category (5th – < 85th percentile).

A 10-year-old boy with a BMI of 13 would be in the underweight category (< 5th percentile).

95th Percentile

85th Percentile

5th Percentile

90th

75th

50th

25th

10th

BMI

34

32

30

28

26

24

22

20

18

16

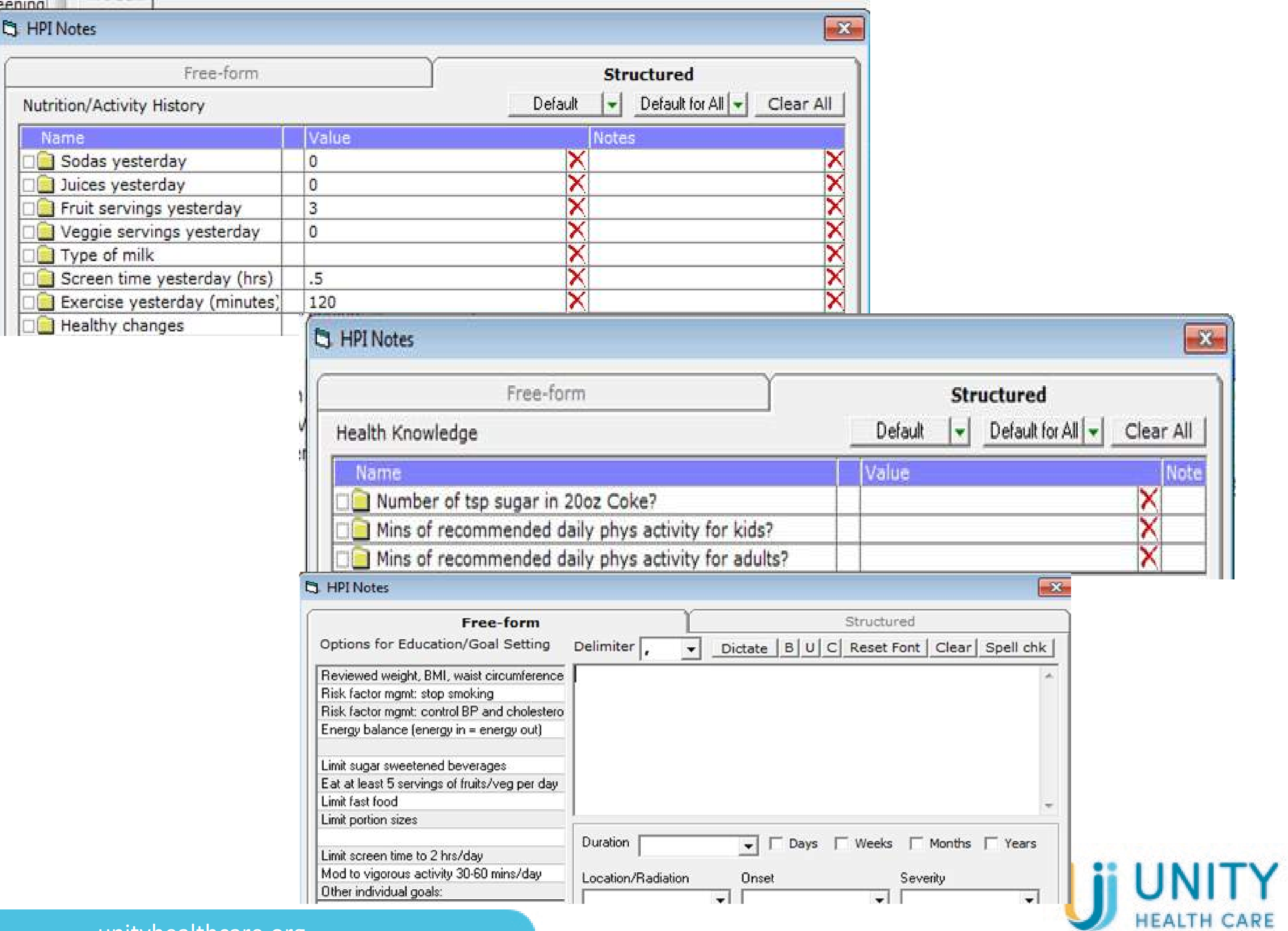
14

12

kg/m²

2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

Age (years)



UNITY HEALTH CARE
Healthier You. Healthier Communities.

Unique Community Partn

- Enhanced programming
- Stronger community connections
- Richer experience for families
- Increased retention

Nutrition Education Programs: DC Central Kitchen

Nutrition Education Programs: SNAP Ed

Nutrition Education Programs: Common Threads

Common Threads

- Health & wellness for children, families, communities through cooking & nutrition education
- Family cooking classes led by professional chefs in clinic's demonstration kitchen

Nutrition Education Programs: CHOP CHOP Healthy Recipes

unityhealthcare.org

Community Garden: City Blossoms

- Fostering healthy communities by developing creative, kid-driven green spaces
- Plant/harvest in garden & prepare a healthy meal

Physical Activity

- Volunteer yoga and zumba instructors
- Community pool (DC Parks & Rec)
- Playgrounds

Access to Local Parks

Produce Rx

Doctors in D.C. write prescriptions for fresh fruits and vegetables that can be redeemed for free produce to help at-risk patients manage diet-related chronic illnesses.

LEARN MORE

dcgreens

THE FVRx PROCESS

1. **Patients** are enrolled by a health provider as a FVRx participant.
2. **Participants attend a FVRx clinical visit** to set goals and discuss nutrition and the importance of healthy eating.
3. Participants receive a **FVRx prescription** during the visit and **health indicators are collected.**
4. Prescriptions are redeemed for **fresh fruits and vegetables at participating retailer, where redemption is tracked.**
5. Participants attend monthly clinic visits to **refill** their FVRx prescription and **set new goals for healthy eating.**

Produce Prescription Program

Issuing Clinic/Health Center: Unity Health Center at Upper Cardozo

Patient's Produce Rx ID#: UC1

Issue Date: 6/1/2018 Exp. Date: 6/30/2018

Value: $20/week

Prescriber Name: James Huang, MD

Prescriber Signature: ______

	Week 1	Week 2	Week 3	Week 4	Week 5
Date Redeemed	5-30	5-30	7-18	7-18	7-25
Initials	FB	FB	FB	FB	FB

dcgreens UNITY HEALTH CARE

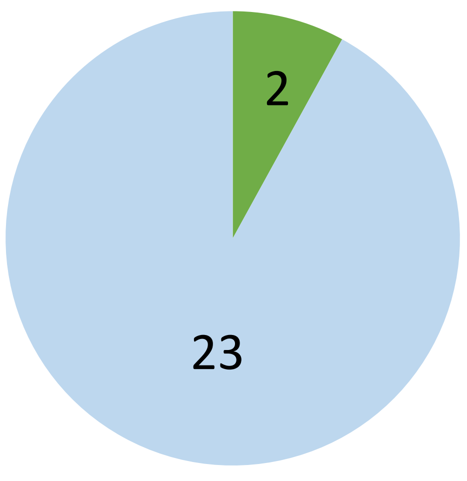
SECURITY FEATURES ON BACK

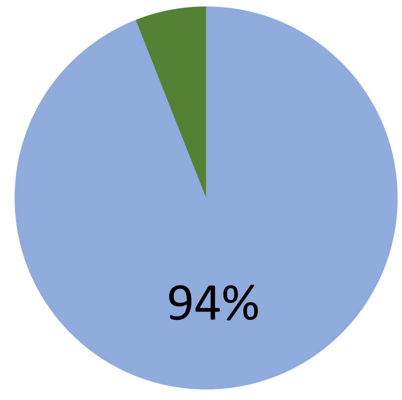
The Produce Prescription Program is a collaboration between DC Greens and the DC Department of Health

DC | HEALTH
GOVERNMENT OF THE DISTRICT OF COLUMBIA

UNITY HEALTH CARE
Healthier You. Healthier Communities.

Evaluation





Evaluation

- 50% reduced their BMI percentile

Health Knowledge/Behavior due to program participation:

- 92% agreed/strongly agreed that they were able to better take care of their health & learned new things about how to care of their health
- 46% improved their rating of their children's overall health
- 30% increased their knowledge about how to prepare fresh fruits and vegetables
- 38% increased their knowledge about where to buy locally grown produce

Partnerships

auntbertha | The Social Care Network

Support Sign Up Log In

Zip or keyword or program name

Select Language

Search for free or reduced cost services like medical care, food, job training, and more.

FOOD HOUSING GOODS TRANSIT HEALTH MONEY CARE EDUCATION WORK LEGAL

1491 programs serve people in Farmington, CT (06032)

Programs like:

Hotlines, Food Pantries, Navigating the System, Help Find Housing, Insurance, Mental Health Care, Help Pay for Transit, Government Benefits, Addiction Recovery, Supported Employment, Childcare, Help Find Work, Help Pay for Utilities, Support Groups, Home Goods, and more!

Programs for:

Anyone in need, Veterans, Families, Seniors, Low Income, Homelessness, LGBTQ+, Children, Limited Mobility, Anxiety, Unemployed, Infants, Immigrants, Domestic Violence Survivors, Pregnancy, Cancer, Substance Dependency, Diabetes, Criminal Justice History, and more!

Type a search term, or pick a category

Success Stories

1. Community building
2. Connecting to local resources
3. Change in behavior
4. Knowledge & engagement

and most of all try. It also changed my life
because it mad me less shy to talk to people
and I learned new fruits/vegetables and that makes
me help the people who need the names of the vegetables, Also
I learned how to cook different plates with new
vegetables and fruit. This new and sort of amazing
way I got this job changed my social life and
also my life with eating healthy and learning
healthy foods!

It also changed my life because it made me less shy to talk to people and I learned new fruits and vegetables, and that makes me help the people who need the names of the vegetables. Also, I learned how to cook different plates with new vegetables and fruit. This new and sort of amazing way I got this job changed my social life and also my life with eating healthy and learning healthy foods!

Conclusion

This family wellness group visit model highlights the value of strong **community partnerships**, which enhance retention and increase support for families towards achieving their healthy lifestyle goal

- Weekly billable group visit
- Family engagement
- Community partnerships
  & collaborative efforts
- Fruit & vegetable prescriptions

Acknowledgements

Wellness Team - MAs, PRCs, providers

Upper Cardozo Health Center

Unity Health Care, Inc.

Community Partners

Participating Families

QUESTIONS?

Please enter your questions into the "Chat" box of the Zoom control window.

Upcoming Learning Collaborative

Four-Part Learning Collaborative

Advancing School Partnerships to Address Diabetes Risk Factors in Elementary School Children

Begins Tuesday, March 3, 2020 at 2:00 pm ET

Presented by:

- Part 1: Tuesday, March 3, 2020 at 2:00 pm - 3:30 pm ET
- Part 2: Tuesday, March 10, 2020 at 2:00 pm - 3:30 pm ET
- Part 3: Tuesday, March 24, 2020 at 2:00 pm - 3:30 pm ET
- Part 4: Tuesday, March 31, 2020 at 2:00 pm - 3:30 pm ET