

# **Promising approaches for delivering and scaling-up Diabetes Prevention Program - translation in underserved communities nationwide**

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# Presenter Disclosure

Debra Haire-Joshu

## Research Support

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- R01 HL143360 (Tabak, PI) NIH

# Reversing the obesity epidemic

## Women (18-39 yrs)

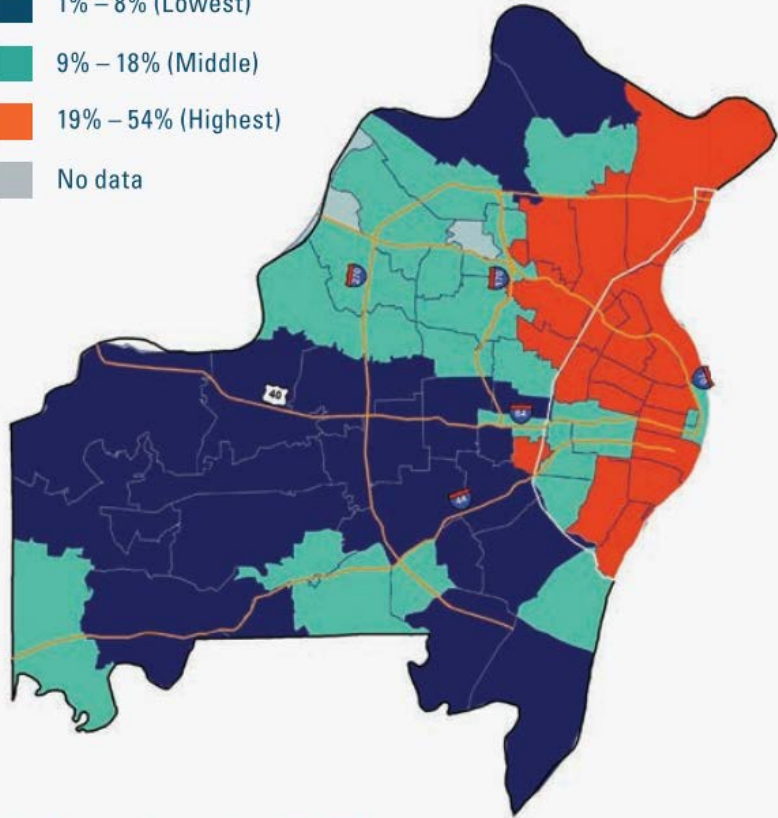
- Average annual weight gain (0.5-1 kg per year)
- Vulnerable to weight gain vs. other life periods
- Limited reach of efficacious interventions
- Diabetes Prevention Program-58% delay diabetes incidence
- Women half as likely to enroll-less likely attend  $\geq 1$  session



# St. Louis context

## B) The concentration of poverty

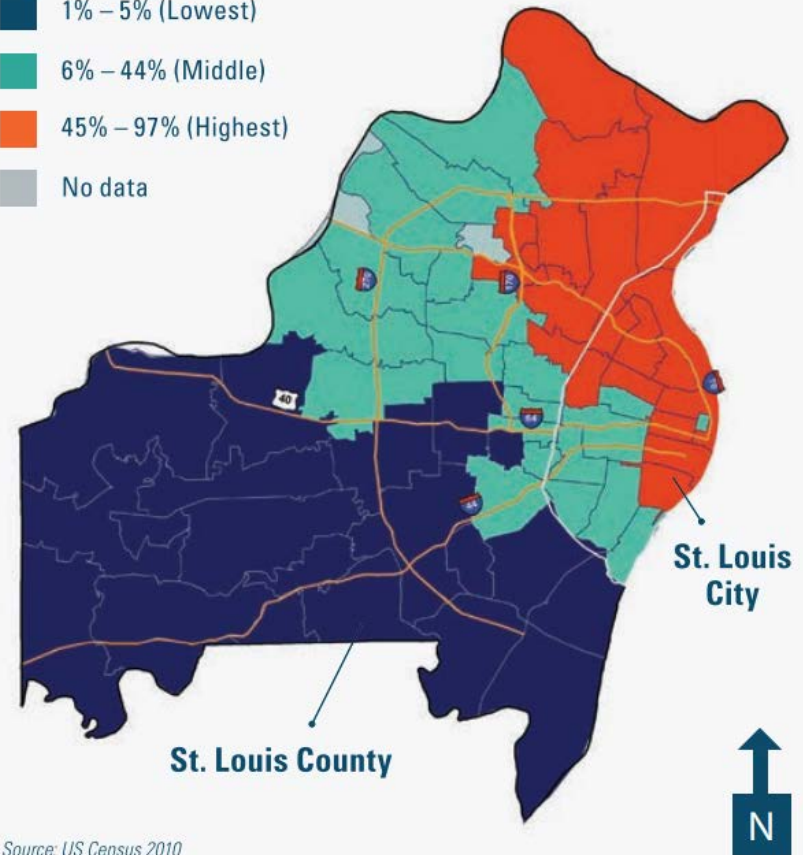
Percent of all residents living in poverty by ZIP code



Source: American Community Survey 2007–2011 5 year estimates

## A) The concentration of African American population

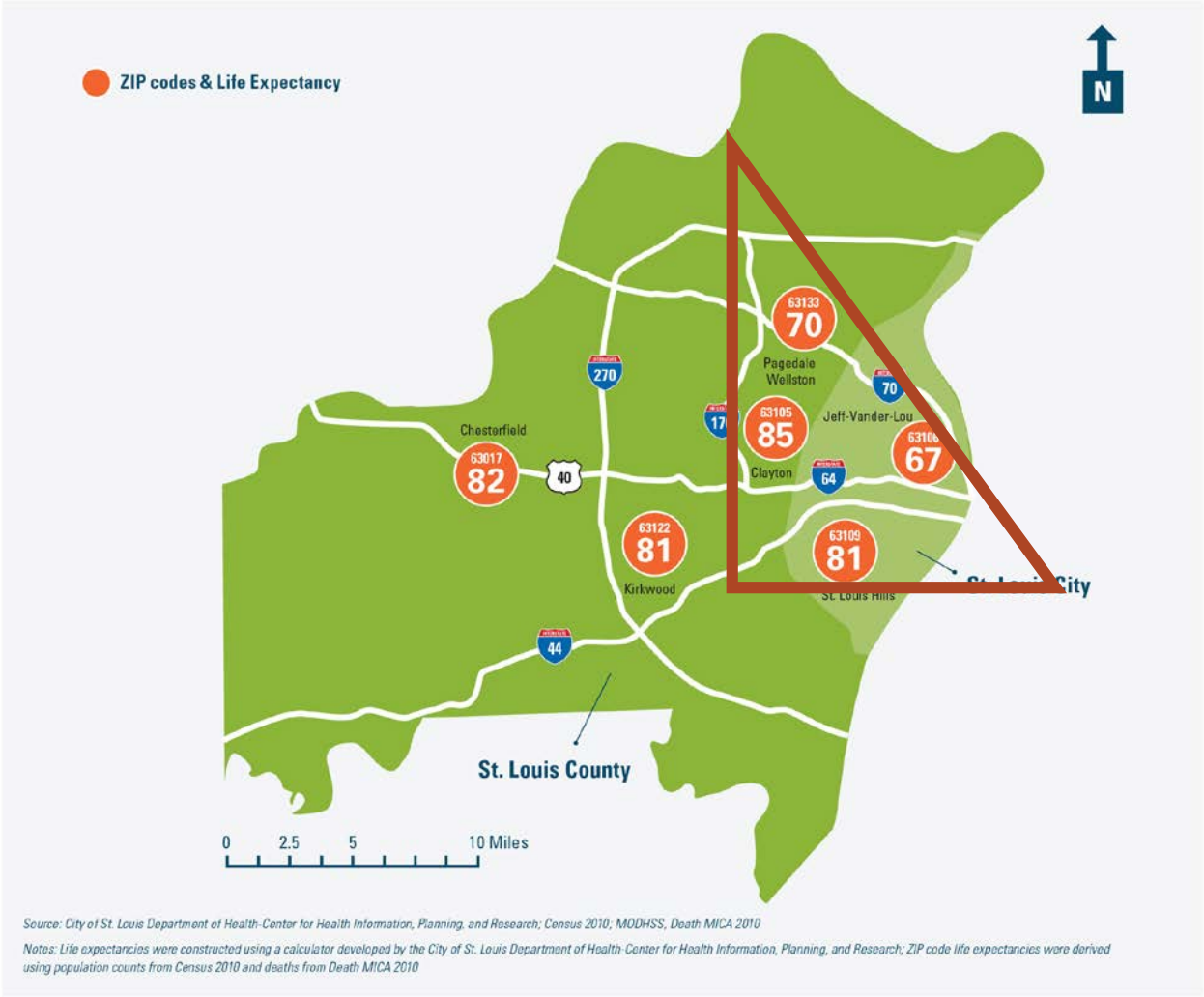
Percent African American population by ZIP code



Source: US Census 2010

# Mortality rates by race and zip code

Figure 17. Life expectancy at birth by ZIP code



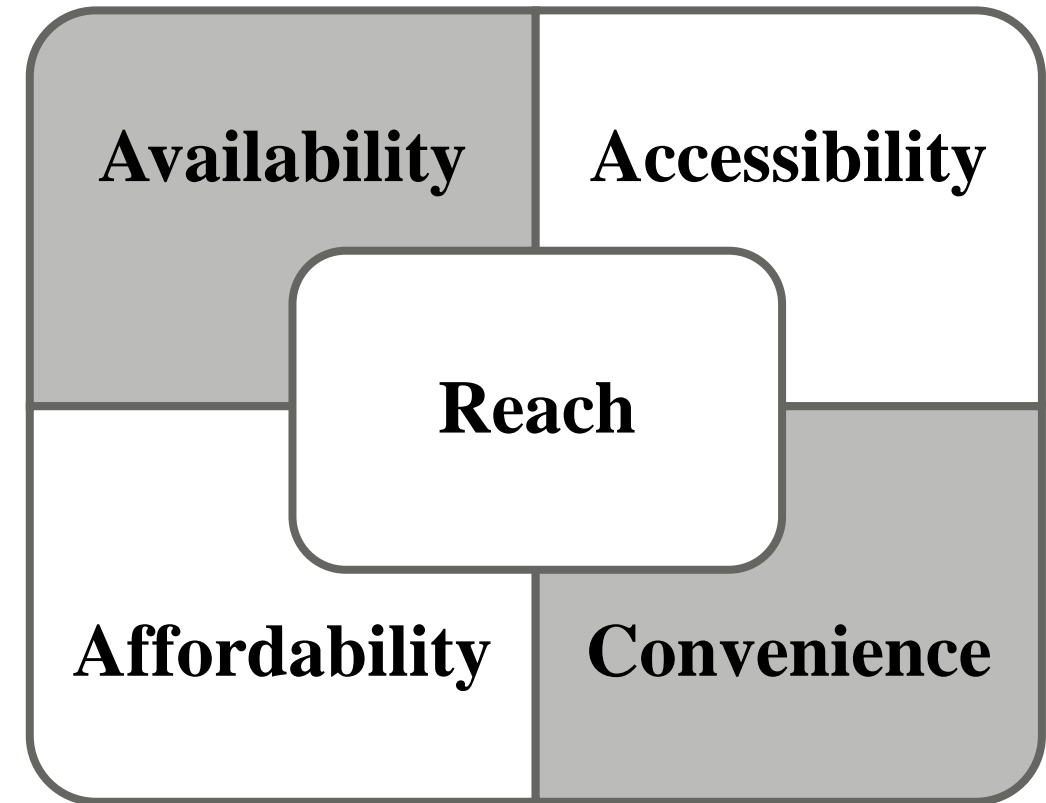
# Partnerships with home visiting organizations

## Strengths

- Meet family priorities
- Address essential conditions, needs
- Reinforce ongoing support, change

## Challenges

- Non health care focused
- Criteria for reimbursement
- What and how to include content



# Parents As Teachers: national home visiting program

Mission: To promote optimal early child development by supporting and engaging parents through home visitation

Standard curricula and trainings for parent educators  
N=4849

Prenatal until child enters to school

Up to 25 home visits per year

4727 sites across 50 states

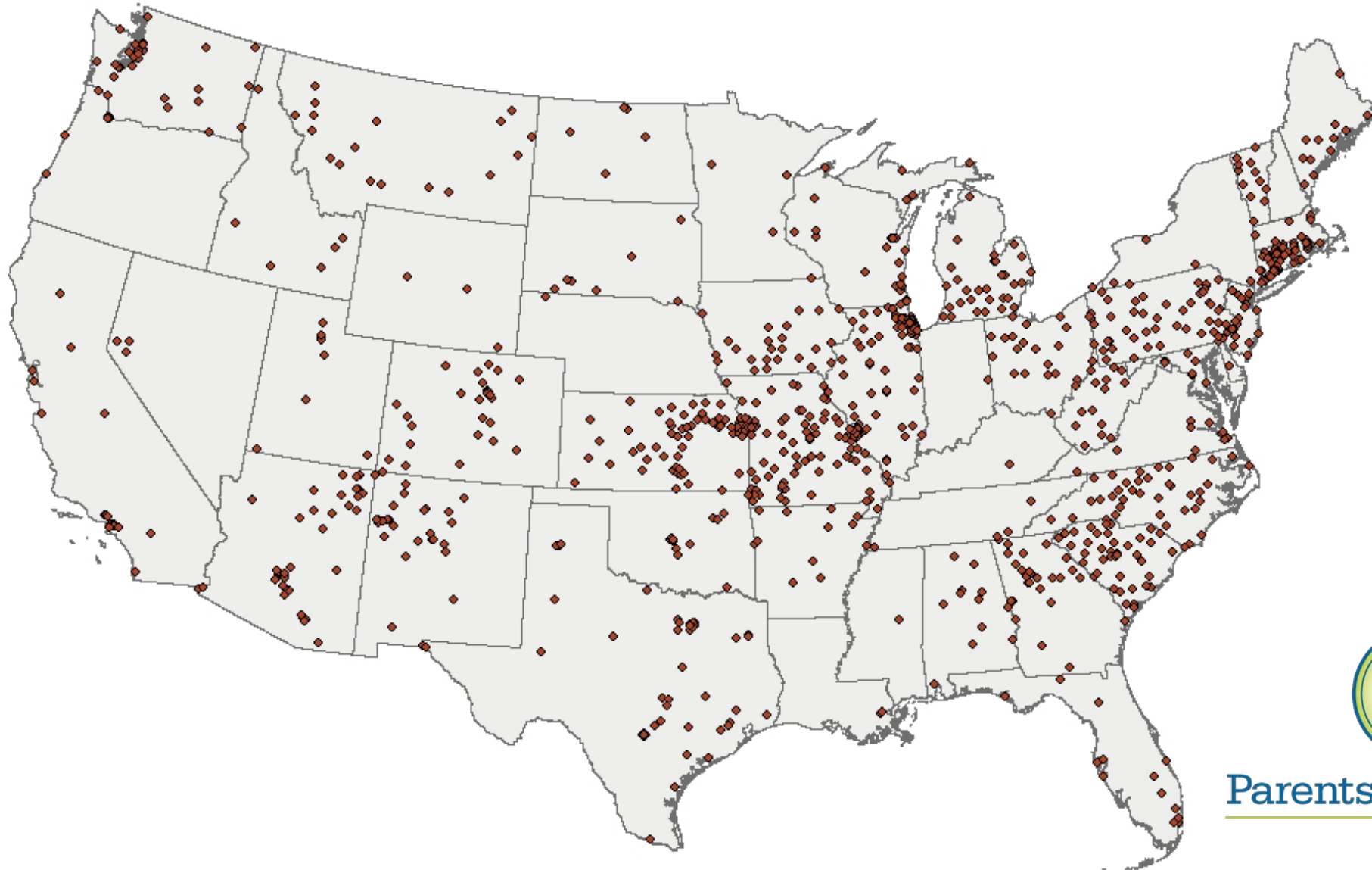
Free to parents, through state & federal \$\$

188,253 parents  
226,904 children

American Indian 5%  
Black 20%  
Hispanic 22%  
White 59%



# Network of sites: local focus-national reach



Parents as Teachers®

*Parents as Teachers Program locator (March 2019)*



# Healthy Eating & Active Living Taught at Home (HEALTH)

## Diabetes Prevention Program (DPP)

Mos 1-6: 1 session/wk  
Coaches, contact, supervised  
Mos 7-12: 1 session/mo  
Group support

## Translate DPP to PAT

- Mothers with preschooler who have obesity or overweight
- When compared to PAT, PAT+HEALTH women will achieve 5% wt. loss/24 mos

# Embed DPP within PAT home visits: guiding principles

## The what

- DPP ‘key ingredients’
- Specific behaviors (e.g. SSB, portions, walking)
- Adapt content--parent modeling, child development

## The how

- Assure relevance to family needs first
- Family strength—solution focused interaction
- Flexible delivery



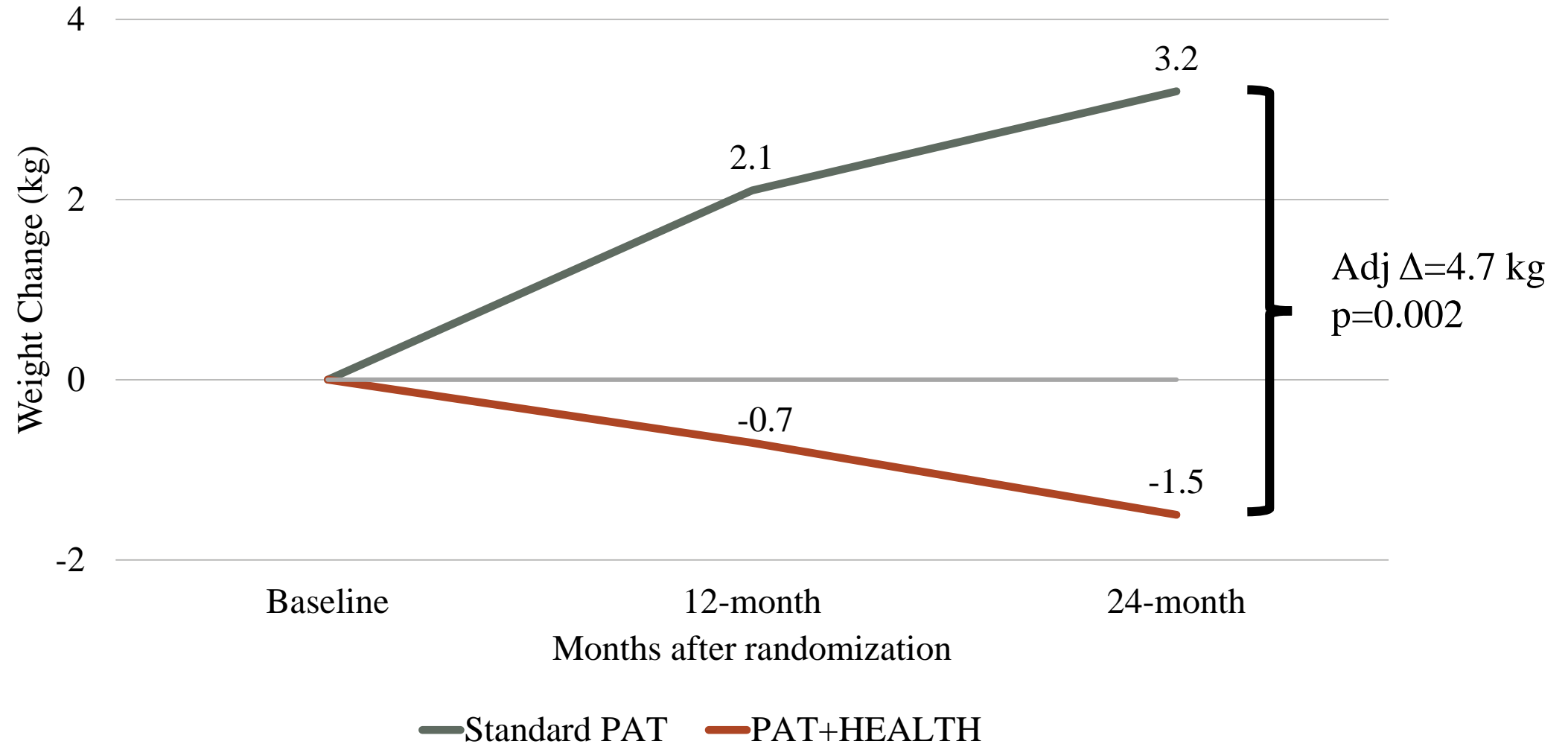
## Baseline characteristics: PAT vs. PAT+HEALTH (N=179)

	Standard PAT (N=97)	PAT+ HEALTH (N=82)	P value
Maternal age (yrs) mean (SD)	33 (5)	32 (6)	0.91
BMI (kg/m <sup>2</sup> ) mean (SD)	34.5 (5.2)	34.4 (5.3)	0.91
Race: non-white (%)	39	44	n/a
WIC (%)	46	58	0.14
Annual household income < \$30,000 (%)	38	40	0.65

## Results: behavior and % weight outcomes baseline-24 months

	Standard PAT	PAT+ HEALTH	P value BL-24 mos
Added sugars from food (tsp)	15.3 to 13.0	14.9 to 10.8	0.01
Added sugars from SSB (tsp)	8.5 to 6.6	8.1 to 5.1	0.01
Physical activity-vigorous	28% to 20%	10% to 30%	0.004
5% weight loss at 24 mth.	11%	26%	0.01
Waist circumference (cm)	111.1 to 115.3	110.5 to 108.5	0.04

# Maternal Weight Change over 24 Months in HEALTH Effectiveness Trial by Randomization Assignment



# Scale-up and sustainability



**HEALTH**  
Healthy Eating, Active Living  
Taught at Home

- HEALTH D&I-National trial in partnership with PAT
- Pragmatic group randomized trial
- 28 sites across multiple states
- Data from 3 levels: mother, sites, parent educators
  - Weight
  - Acceptable, Appropriate, Adapt
  - Context
- Translation of HEALTH to national practice

# Weight management with pregnant and underserved African American women with obesity

- Multisite national trial
- Different weight management interventions during and post pregnancy
- Washington University site: Randomized control trial
- Standard PAT vrs. LifeMoms PAT+ on GWG & 12 mo. postpartum weight







- Pregnant African American Women with overweight-obesity (N=276)
- 54% single
- 92% poverty
- 51% moved once, 12% twice while pregnant
- Crime 111% > natl avg

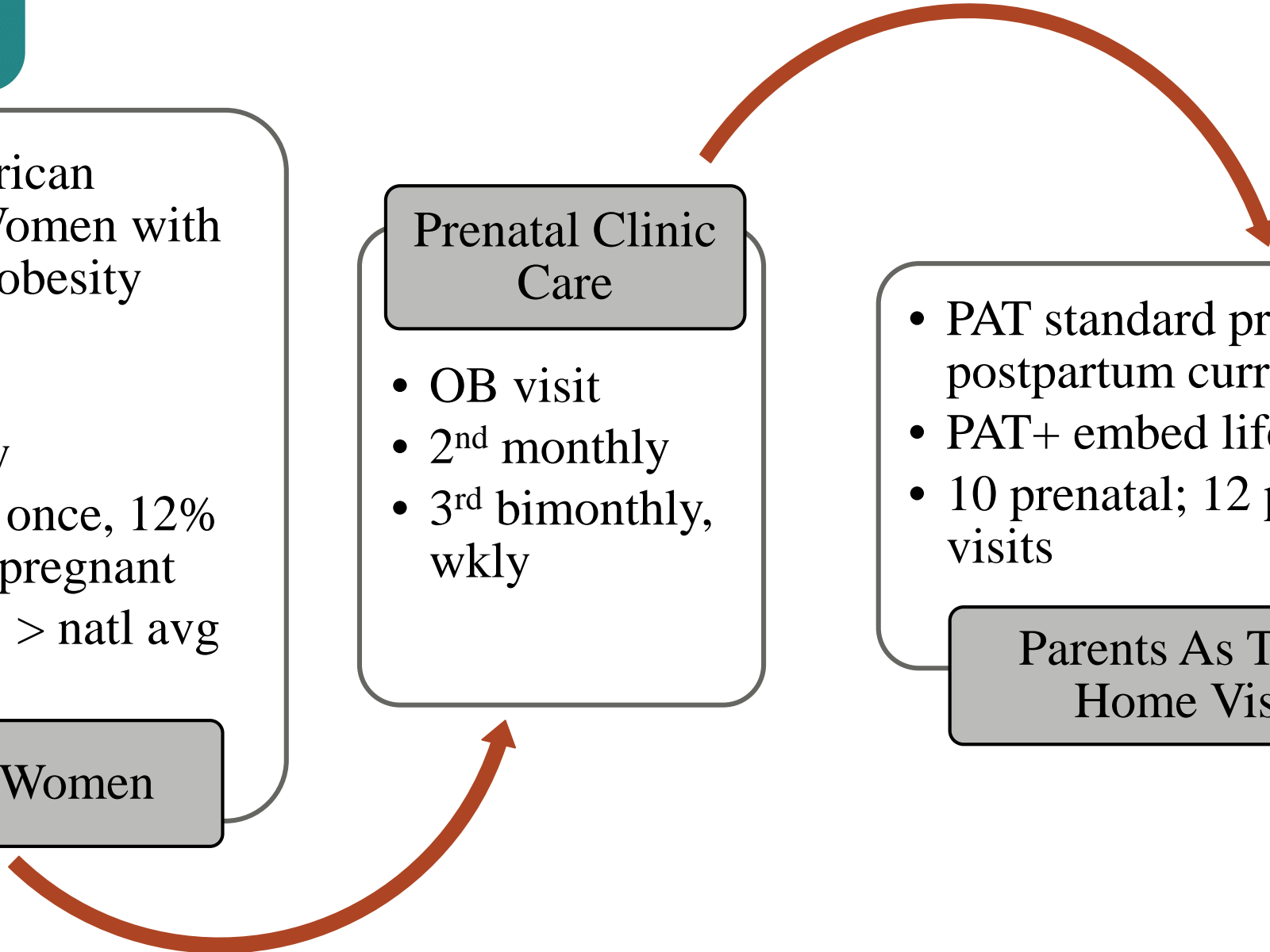
Pregnant Women

### Prenatal Clinic Care

- OB visit
- 2<sup>nd</sup> monthly
- 3<sup>rd</sup> bimonthly, wkly

- PAT standard prenatal-postpartum curriculum
- PAT+ embed lifestyle
- 10 prenatal; 12 postpartum visits

Parents As Teachers  
Home Visiting



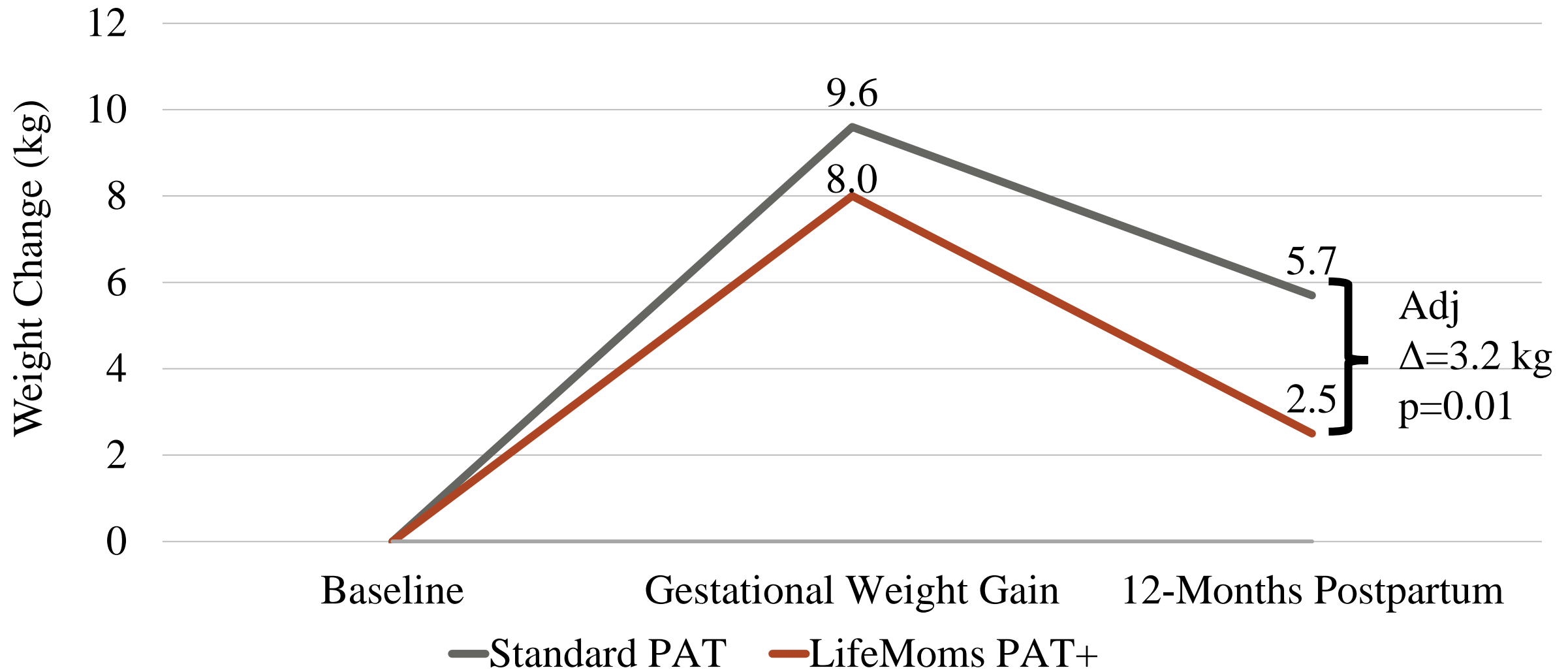
## Baseline characteristics: PAT vs. LifeMoms PAT+

	<b>PAT</b> (N=134) Mean $\pm$ SD	<b>LifeMoms PAT+</b> (N=133) Mean $\pm$ SD	<b>P value</b>
Maternal age (yrs)	26.0 $\pm$ 4.9	24.7 $\pm$ 4.9	0.04
BMI (kg/m <sup>2</sup> )	31.9 $\pm$ 4.9	32.8 $\pm$ 5.1	0.16
Body weight (kg)	86.1 $\pm$ 15.2	87.3 $\pm$ 16.1	0.52
Overweight (n, %)	52 (38.8)	42 (31.6)	0.22
Obesity (n, %)	82 (61.2)	90 (67.7)	0.27
Medicaid (n, %)	119 (92.2)	119 (90.8)	0.42

## Results: prenatal and postpartum weight outcomes

	PAT vs. LifeMoms PAT+	P value
<b>Prenatal (N=267)</b>		
Total GWG (kg)	9.64 vs. 8.05	0.02
Weight gain per week (kg)	0.48 vs. 0.40	0.04
Weekly GWG > than guidelines	77.4% vs. 62.4%	0.01
Change in body fat (kg)	2.18 vs. 0.25	0.01
<b>Postpartum (N=209)</b>		
Return to baseline or less weight	21.5% vs. 38%	0.01

# Maternal gestational and postpartum weight change over 24 months by randomization assignment



## Conclusions and next steps

1. 'Non-health care' organizations addressing essential conditions may be a roadmap to promote health equity
2. Long-term follow-up is needed to capture full impact of interventions that prioritize 'real life needs'
3. Bringing effective lifestyle interventions to scale should be priority