

# Advancing Physical Activity through Innovative Approaches



## Design, Implementation and Impact of a Park-Based Afterschool Healthy Weight Program in Diverse Youth

Presented by: Sarah E. Messiah, Ph.D., MPH  
on behalf of partnership between:

The University of Miami & Miami Dade County Department of Parks, Recreation and Open Spaces Department Collaborative



National Public Health Week  
April 3-9, 2017





### Five Conditions of Collective Success:

- 1) *a common agenda;*
- 2) *shared measurement systems;*
- 3) *mutually reinforcing activities;*
- 4) *continuous communication; and*
- 5) *a backbone support organization.*



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# TEAM WORK, TEAM APPROACH

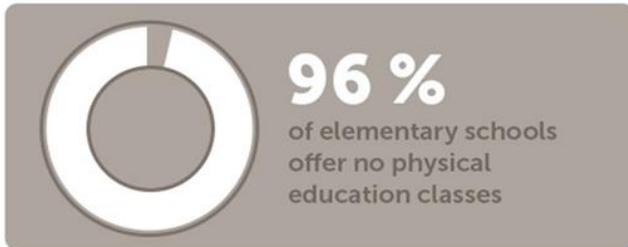
## University & Parks collaboration in all phases of:

- Design
- Implementation
- Collection of data
- Interpretation of results
- Dissemination of results
- Scaling up to a Park Rx program

### Condition #1: Common agenda

*A shared vision for change, one that includes a common understanding of the problem and a joint approach to solving it through agreed upon actions*

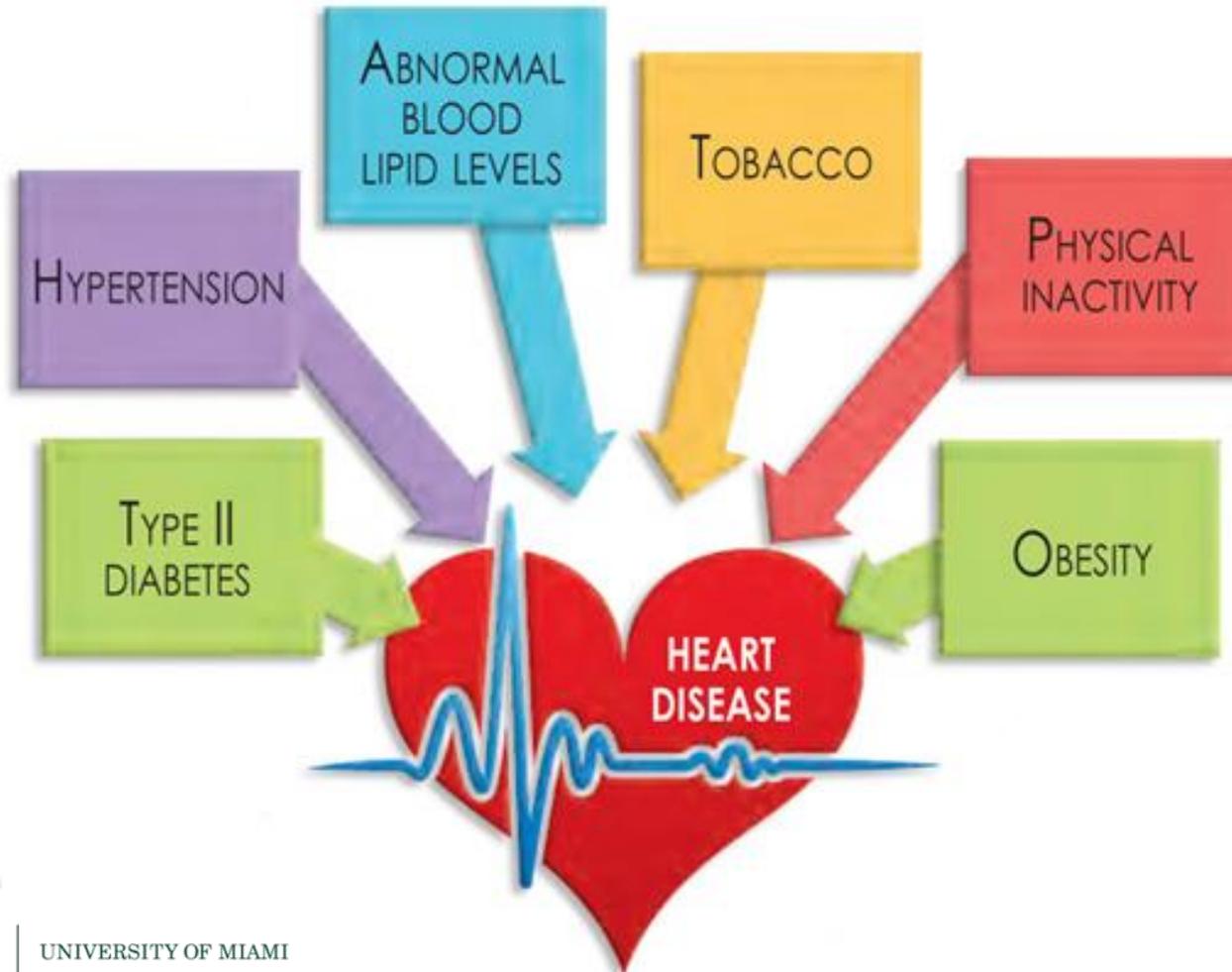
# Our Common Agenda: Childhood Obesity



- Endemic (30% pediatric population; > 50% adult)
- Children from economically disadvantaged households are more likely to be overweight or obese due to lack of access/available
  - -quality dietary choices
  - -safe places to exercise)
- Ethnic group disparities remain deeply entrenched in the local and national epidemic

Source: CDC

# Modifiable Cardiovascular Disease Risk Factors



# The Power of Parks to Create Healthy Communities

## REALITY

- homes/families need help
- pediatricians need help
- hospital based programs unrealistic
- > emphasis on academics during school day, < on recess, PE



## ALSO REALITY

- parks are for everyone (health equity)
- parks are available (accessibility)
- parks are affordable (sustainability)

Parks can be a part of the solution for childhood obesity prevention.

# FIT2PLAY<sup>®</sup> Fitness Component

- SPARK (**S**ports, **P**lay & **A**ctive **R**ecreation for **K**ids)
- Evidence Based (NIH funded, 45 publications of effectiveness)
- 400 Page binder of activities
- $\geq$  45 minutes of daily physical activity
- Leaders receive ongoing in-service training, evaluation and instructor coaching
- Equipment available for activities
- Follow up support available



# Health & Wellness (Nutrition Emphasis)

## **FIT2PLAY** Curriculum Component

- **EmpowerME4Life** - an 8-session healthy living course (Alliance for a Healthier Generation)
- Grounded in the American Heart Association's scientific recommendations in promoting heart-healthy lifestyles

1. **Physically active for 60 minutes each day**
2. **Drink primarily water, 1 percent or fat free milk, and 100 percent juice with no added sugars**
3. **Eat fruits and vegetables with EVERY meal**
4. **Limit screen time to 1-2 hours a day**
5. **Get  $\geq$  9 hours of sleep every night**



**Condition #2: Shared Measurement System**

*Collecting data and measuring results consistently on a short list of indicators at the community level, including the use of web-based technology*

**UM faculty and staff trained parks staff in measurement of:**

- height & weight
- waist & hip circumference
- skinfold measures (4 sites)
- blood pressure & pulse
- Presidential fitness test
- Knowledge test





# Data Collection and Analysis Component

- Web-based data collection program; Data automatically uploaded to UM server from the 30+ parks
- Data housed on UM data servers
- UM/MDPROS faculty analyze data
- UM/MDPROS jointly publish findings



## Condition #3: Mutually Reinforcing Activities

*"A diverse group of stakeholders working together, not requiring that all participants do the same thing, but encouraging each participant to undertake the specific set of activities at which it excels"*



# Participants ( $\geq 1$ year)

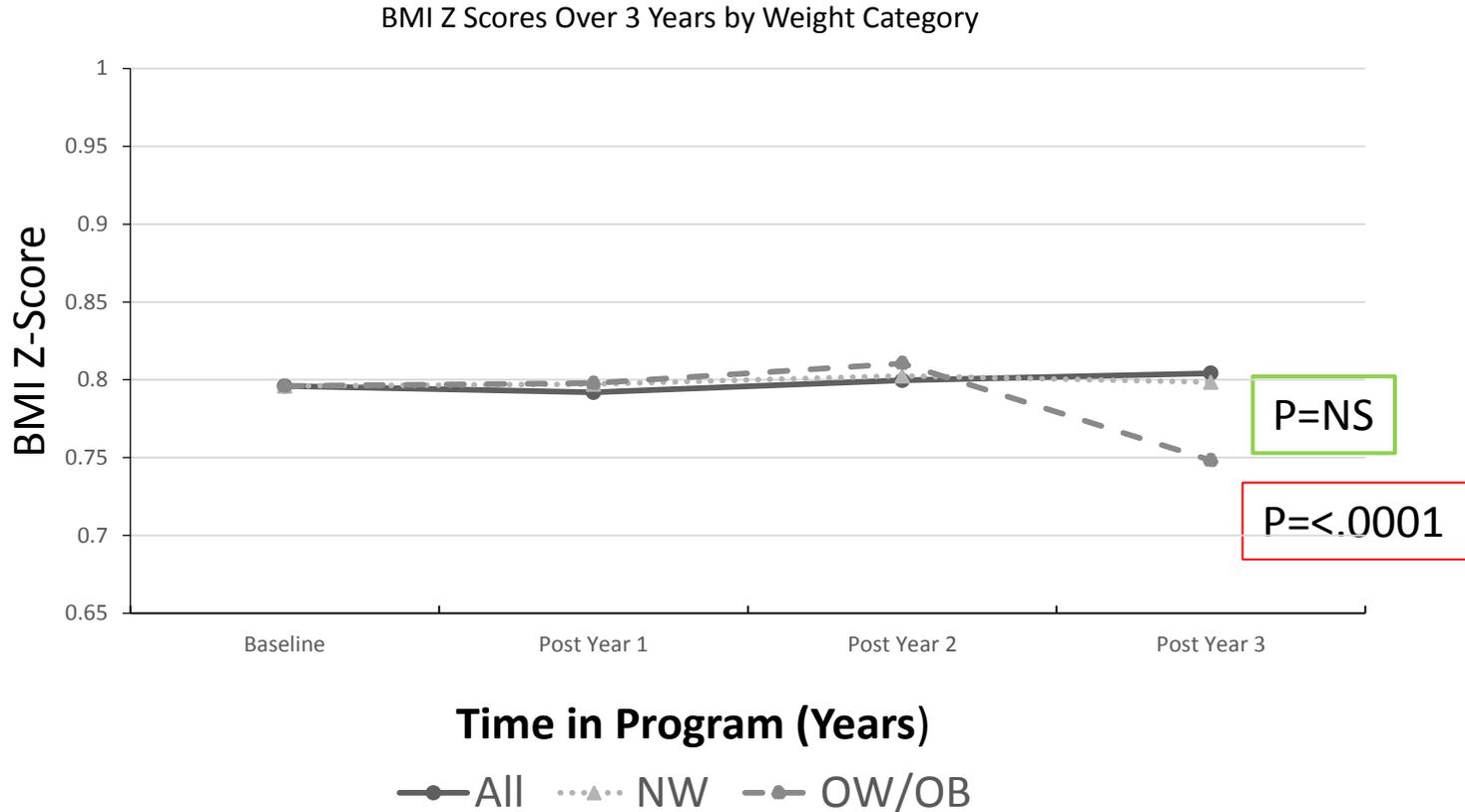
Mean Age 9.3 years, (range 6-14)

**N=2,185** (2010-2016)

Gender	N (%)
Boys	1,180 (54)
Girls	1,005 (46)
Ethnicity	
Hispanic	1,050 (48)
Black	1,093 (50)
White	21 (1)
Other	21 (1)

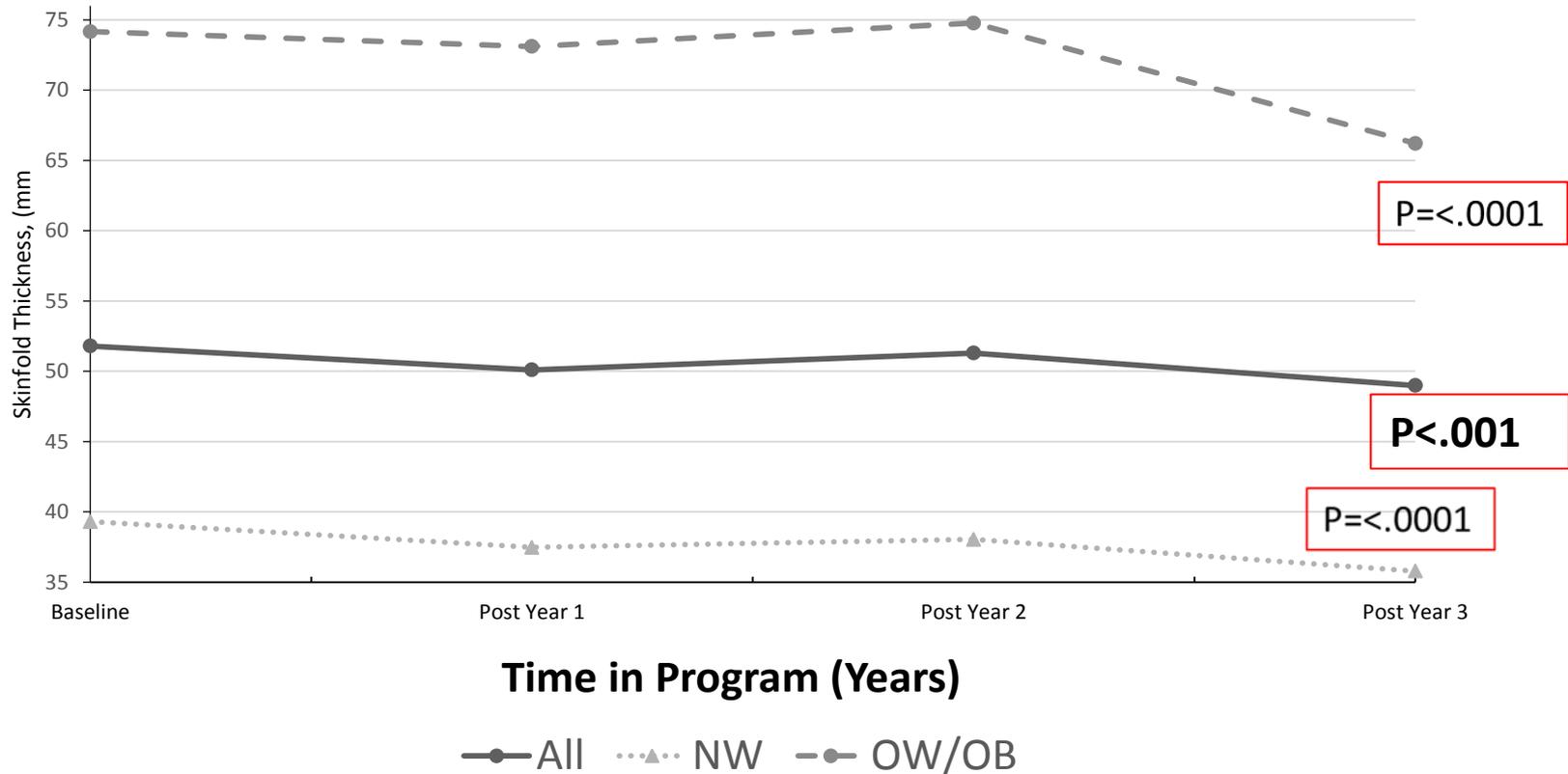


# Change\* in Body Mass Index z score Over 3 Years by Weight Category



\*Generalized linear mixed models adjusted for age, race-ethnicity, weight category (only for “all”), gender, park-area poverty, and park location

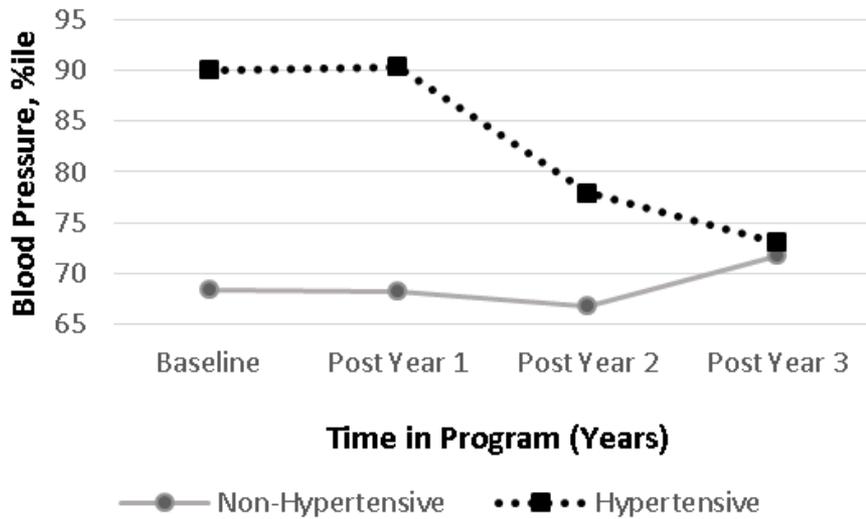
# Change\* in Skinfold Thickness (mm) Over 3 Years by Weight Category



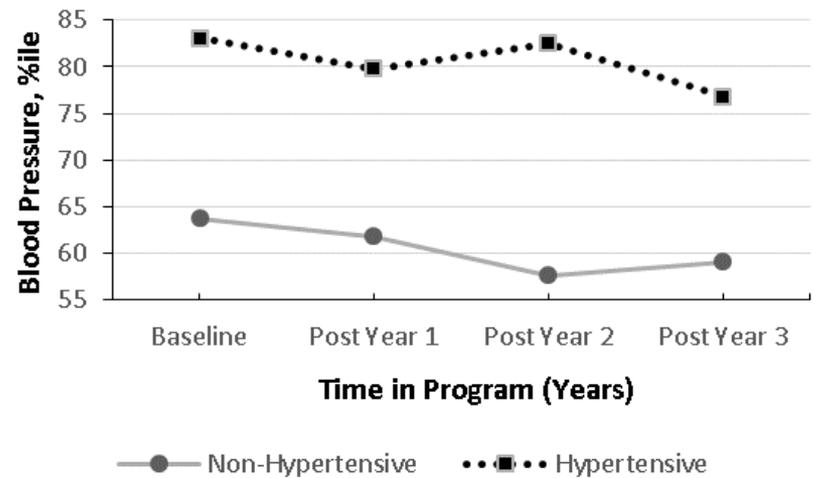
\*Generalized linear mixed models adjusted for age, race-ethnicity, weight category, gender, park-area poverty, and park location

# Change\* in Blood Pressure Percentile Over 3 Years

Systolic Blood Pressure Over 3 Years by Blood Pressure Status



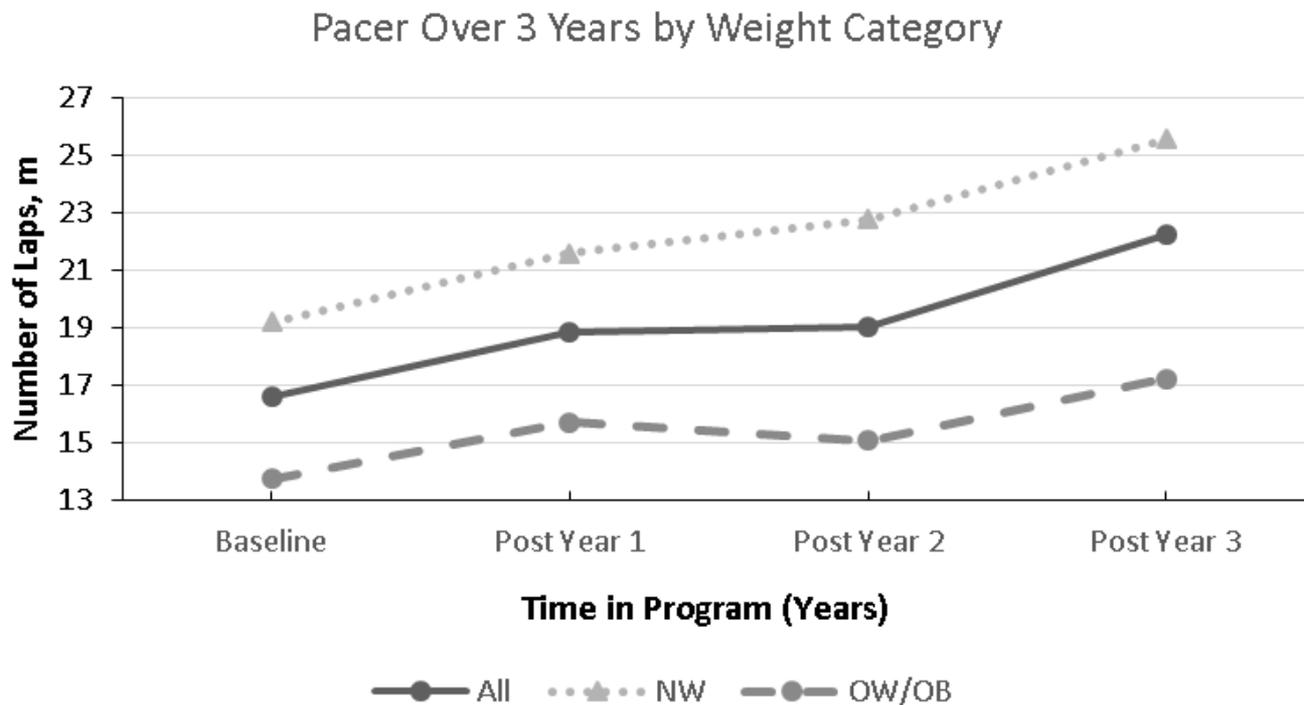
Diastolic Blood Pressure Over 3 Years by Blood Pressure Status



\*Generalized linear mixed models adjusted for age, race-ethnicity, weight category, gender, park-area poverty, and park location



# Change\* in Cardiovascular Fitness Over 3 Years by Weight Category

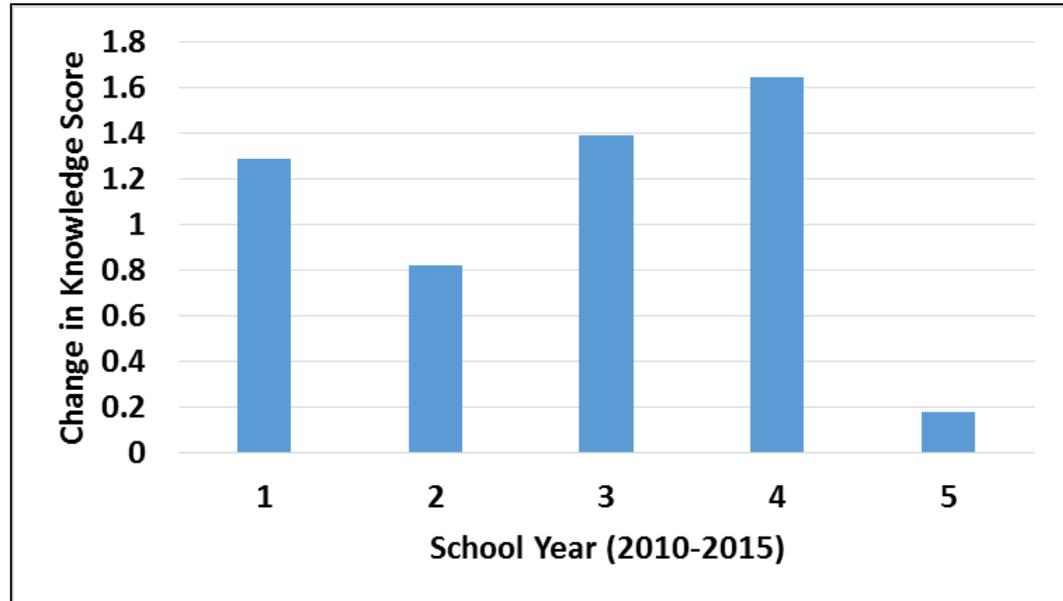


\*Generalized linear mixed models adjusted for age, race-ethnicity, weight category, gender, park-area poverty, and park location

# Change\* in Knowledge Scores

## QUESTION

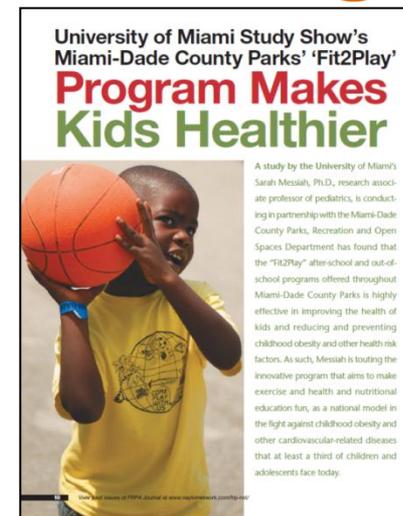
Being physically active is only for athletes  
It is healthy to eat fruits/vegetables at every meal  
Fruits & vegetables are full of nutrients & vitamins  
It is good to exercise an hour a day  
Watch TV instead of exercise  
I should limit the amount of TV  
How does being physically active help your body  
Identify the activity that is most physically active  
Identify the bad drink  
Overall Composite



\*Generalized linear mixed models adjusted for age, sex, ethnicity, year and park location

# Dissemination of Evidence-Based Findings

- **Present** Findings at National Meetings
- **Publish** Findings in the Scientific Literature (peer reviewed)
- **Build team** by bringing in other local partners (govt. officials, medical establishments)



Preventive Medicine 95 (2017) 66–73



Impact of a park-based afterschool program replicated over five years on modifiable cardiovascular disease risk factors



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# THE POWER OF PARKS TO CREATE HEALTHIER COMMUNITIES

## Condition #4: Continuous Communication

*"Participants need several years of regular meetings to build up enough experience with each other to recognize and appreciate the common motivation behind their different parts"*

## Condition #5: Backbone Support Organization:

*Creating and managing collective impact requires a separate organization and staff with a very specific set of skills to serve as the backbone for the entire initiative.*



- Every member of the team is valuable
- Every Park Rx program needs a champion from each partner **organization-**  
**MDPROS has SEVERAL local academic/medical champions**

# SUMMARY of EVIDENCE-BASED RESULTS TO SUPPORT PARK RX



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1. Collectively maintained (and improved) healthy weight and body mass index (BMI) throughout the school year
2. Lowered their blood pressure (increased healthy BP)
3. Improved their physical health, fitness levels and knowledge about nutrition and healthy lifestyle behavior
4. Children with disabilities equally benefit



Park RX  
Program



Submit a Manuscript: <http://www.wjnet.com/esp/>  
Help Desk: <http://www.wjnet.com/esp/helpdesk.aspx>  
DOI: 10.5409/wjcp.v5.i3.234

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EDITORIAL

Reducing childhood obesity through coordinated care:  
Development of a park prescription program



## Parks & 4Health

Your child's physician has suggested that he/she would benefit from participating in a daily physical activity program. The Miami-Dade County Parks, Recreation and Open Spaces Department provides you with a convenient program, "Fit2Play" Afterschool, designed to help your child get active through evidenced based recreation activities and nutrition education lessons that will teach them to eat better.



### Fit2Play Families: Youth

**What is Fit2Play?**  
Fit2Play Afterschool is a program designed by the Miami-Dade County Parks, Recreation and Open Spaces Department and the University of Miami Miller School of Medicine that is helping to make kids healthier in a fun way! From an affordable, it is recognized as a health, wellness and nutrition solution for children conveniently located at Miami-Dade County parks. As an added convenience to parents, transportation from any school located within a two mile radius of a Fit2Play program park is provided.

**Fit2Play Afterschool SPARK**  
(Sports, Play and Active Recreation for Kids)  
Forty-five (45) minutes of structured, active recreation activities and games that focus on developing and improving motor skills, movement knowledge, social and personal skills.

**EmpowerMe 4Life Nutrition**  
EmpowerMe 4Life nutrition (12 lessons) provides information that promotes a healthier attitude toward food and provides children with the knowledge to make better decisions about food choices.

**Homework Time**  
Up to thirty (30) minutes are set aside for homework help.

**Recreation Games**  
Recreation Games introduce children to team sports that promote physical activity, build and nurture leadership skills and help develop social skills.

**Life Sports (Golf and Tennis)**  
Life Sports introduce children to the basics of golf and tennis. For some, it is the first time holding tennis racket or golf club.



Afterschool meeting (homework help)

For more information: (305) 755-7879

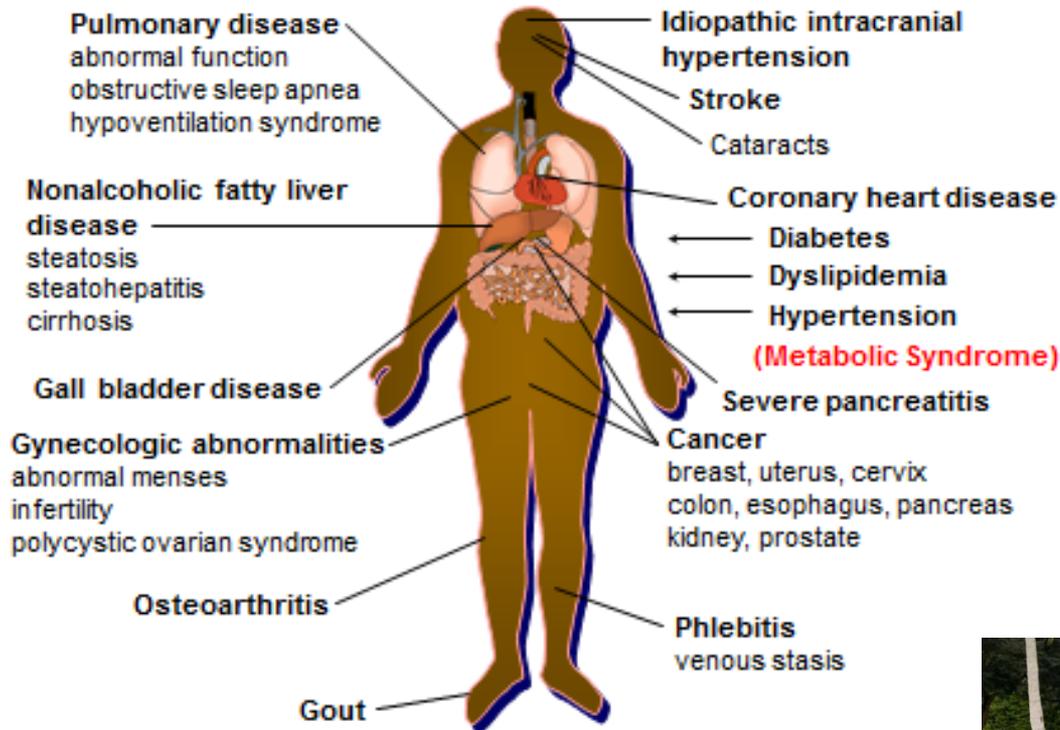
To request material in accessible format, information on access for persons with disabilities, or sign language interpret services (7 days in advance), call 305-755-7944.





# Next Steps: Park Prescription (Rx)

## 37 Medical Complications of Obesity Many Now Seen in Childhood



A Miami-Dade County Parks, Recreation and Open Spaces Department Program

**BENEFITS OF FIT2PLAY**

- Kids lose excess fat and improve their physical fitness
- Kids with high blood pressure, lower their blood pressure levels
- Kids maintain a healthy weight and body mass index (BMI) throughout the school year
- Kids are taught nutritional information that they can use on a daily basis
- Kids learn fun, new ways to exercise with other children who become new friends
- Kids develop and improve their motor skills, movement knowledge, and social and personal skills
- Kids learn why it's important to eat well, exercise, get enough sleep, avoid excessive sun exposure, and the dangers of smoking.

*"An active lifestyle that combines outdoor recreation and healthy eating is the key to winning the battle against childhood obesity. This concept is most effective and successful in the Miami-Dade County Parks FIT2PLAY Program, because it encourages children to practice their newfound healthy lifestyle knowledge at home by electing to eat nutritious food, engaging in more physical activity, and reducing their time in front of the computer and television. FIT2PLAY is a national model."*

— University of Miami  
UHealth Pediatrician  
Rocio L. Miller, M.D.

**CONTACT US FOR MORE INFORMATION & REGISTRATION**  
Visit [www.miamidade.gov/parks](http://www.miamidade.gov/parks) • Visit or call a Miami-Dade County park near you • Call 311

Miami-Dade County Parks, Recreation & Open Spaces Department  
Administrative Offices  
275 NW 2nd Street, 3rd Floor, Miami, FL 33128  
[www.miamidade.gov/parks](http://www.miamidade.gov/parks) • Call 311

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# Next Steps: Safe Spaces to Recreate for At Risk Youth: Mental Health Benefits of Parks



Provides:

- Safe Place
- Learning & Exploring
- Life Skills to Empower
- Homework Help
- Sports & Fitness
- Health & Wellness
- Fun and Games

**Sign-Up TODAY!**

**Contact Eric Hansen**  
EricH@miamidade.gov  
305-755-5460

Available at 13 Parks in Miami-Dade County • Transportation is Provided • Meals will be Served

Time: 4:00 p.m. to 7:00 p.m. - 5 Days a Week

**FIND YOUR PARK BY ZIP CODE ON THE BACK**

Miami-Dade Juvenile  
Service Department



Miami-Dade Parks, Recreation  
and Open Spaces Department



Center for  
Children and Families



# Thank You

## Acknowledgements:

- ❖ UM/MDPROS multiple team members (Health & Wellness Team, Park Coaches, Administration)
- ❖ Miami Dade County Health Department
- ❖ Alliance for a Healthier Generation
- ❖ Florida Surgeon General's Office

