SARAH MESSIAH, PH.D. MPH
Fit2Play Afterschool Program
Design and Implementation of Evidence-Based Pediatric Park Prescription Programming
Design Phase
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

Mother Teresa
"I can do things you cannot, you can do things I cannot; together we can do great things."
Key Design Issues

• Who do you want to reach?

• Who can you partner with?

• What do you want to measure?

• What would you like your ideal outcomes to be?
Our Health Challenge: Childhood Obesity

• Major epidemic in Miami
• Nearly one in three children are overweight or obese
• Children from economically disadvantaged households are more likely to be overweight or obese
• Non-Hispanic black and Hispanic children are developing type 2 diabetes at much higher rates than their non-Hispanic white peers.
1 in 3 children and teens age 2 to 19 are considered overweight or obese.

2 out of 3 don’t get any daily physical activity.

96% of elementary schools offer no physical education classes.

7 hours is the amount of time kids spend in front of TV or computer screens daily.

Source: CDC

4 Health
Fit2Play Fitness Component

- SPARK (Sports, Play & Active Recreation for Kids)
- Evidence Based (NIH funded, 45 publications of effectiveness)
- 400 Page binder of activities
- 45 minutes of daily physical activity
- Leaders receive ongoing in-service training, evaluation and instructor coaching
- Equipment available for activities
- Follow up support available
Fit2Play Health & Wellness (Nutrition Emphasis) Curriculum Component

- **EmpowerME4Life** is an 8-session healthy living course to equip kids ages 8-12 with new attitudes, skills and knowledge about eating better.

- Grounded in the American Heart Association’s scientific recommendations in promoting heart-healthy lifestyles.

- Based on the Alliance's five steps kids can take to live healthier:
  1. Get 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 1-2 hours a day
  5. Get at least 9 hours of sleep every night
Implementation Phase
Team Work, Team Approach

UM faculty and staff trained parks field staff measurement of:

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

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 faculty analyze data
- UM/Parks jointly publish findings
Participants (who we wanted to reach)

Mean Age 9.1 years, (range 6-14)  
**N=1,175** (2010-2015)

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<th>Gender</th>
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<table>
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<td>White</td>
<td>1</td>
</tr>
<tr>
<td>Other</td>
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</tr>
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</table>
Change* in BMI %ile over 5 Years

*Generalized linear mixed models adjusted for ethnicity, year and park location
Change* in Blood Pressure over 5 Years

*Generalized linear mixed models adjusted for ethnicity, year and park location
Percent change in those with systolic & diastolic hypertension* adjusted for age and sex, by weight group from the beginning to the end of the school year.
Change* in Cardiovascular Fitness

*Generalized linear mixed models adjusted for age, sex, ethnicity, year and park location
Change* in Strength & Flexibility

*Generalized linear mixed models adjusted for age, sex, ethnicity, year 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
CONCLUSIONS
Miami-Dade Parks Fit2Play Program Is Making Kids Healthier

1. Collectively maintained (and improved) healthy weight and body mass index (BMI) throughout 5 school years
2. Lowered blood pressure (increased healthy BP)
3. Improved physical health, fitness levels and knowledge about nutrition and healthy lifestyle behavior
4. Children with disabilities equally benefit
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)
37 Medical Complications of Obesity
Many Now Seen in Childhood

- Pulmonary disease
- Idiopathic intracranial hypertension
- Obstructive sleep apnea
- Stroke
- Hypoventilation syndrome
- Cataracts
- Coronary heart disease
- Nonalcoholic fatty liver disease
- Diabetes
- Steatosis
- Dyslipidemia
- Steatohepatitis
- Hypertension
- Cirrhosis
- Gall bladder disease
- Severe pancreatitis
- Gynecologic abnormalities
- Cancer
- Abnormal menses
- Breast, uterus, cervix
- Infertility
- Colon, esophagus, pancreas
- Polycystic ovarian syndrome
- Kidney, prostate
- Osteoarthritis
- Phlebitis
- Venous stasis
- Gout

(Metabolic Syndrome)
Lessons Learned

- Every member of the team is valuable
- Every program needs a champion from each partner organization
- Communication is key
- No study is perfect
- Effort is for the greater good (children’s health)
LOURDES Q. FORSTER, MD FAAP
Parks Rx 4Health Program
PARKS RX 4HEALTH
A Park Prescription Program
Parks Rx 4Health

UHealth Primary Care
*Your doctors for life*

UHealth Pediatrics
Medical Campus
Parks Rx 4Health

Sustainable Program Management

- Program Coordinator / Hospital – Physician Liaison
- Health and Wellness Specialists
- Immediate Response
- Reliable and Consistent Patient – Measures Feedback
Parks Rx 4Health

- Parks near our families
- Data driven tracking of zip codes with kids most at risk for obesity
Parks Rx 4Health

FIT2PLAY - MAKING CHILDREN HEALTHIER BY MAKING FITNESS FUN

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

“An active lifestyle that combines exercise, nutrition, and healthy eating is the key to winning the battle against childhood obesity. This concept is most effective at renovation in the Miami-Dade County Parks ‘FIT2PLAY’ Program. With FIT2PLAY children practice their newfound healthy eating and activity habits at home by eating well and getting more active. By expanding their interest in sports and making their time in front of the computer and television FIT2PLAY is a national model.”

University of Miami

Children's Health

Visit www.miamidade.gov/parks • Call 311

Contact us for more information & registration

Miami-Dade County Parks, Recreation & Open Spaces Department

Administrative Office
275 NW 3rd Street, 3rd Floor
www.miamidade.gov/parks • Call 311
Follow us on Twitter @MiamiDadeParks

4 Health
Summary

Closing the Loop
Rx 4Health

- Physician
- Rx 4Health Patient Direction
- Performance and Biometric Measures
- Park Health and Wellness Specialist
- Program Implementation
- Patient Support Counseling and Encouragement
- Feedback Effectiveness Report
- Patient Direction

Miami-Dade County Parks, Recreation and Open Spaces Department
Prescribing (Rx) Parks and Recreation for Health and Wellness

Questions