Physical Activity in Childcare Evaluation

- New York State Department of Health
- Obesity Prevention Conference, San Diego

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Physical Activity Expert Consultant to NYS DOH Community Transformation Grant
Physical Activity Specialist Implementation in Child Care Settings

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Community Transformation Grant
Objective 1.1:

Increase by 25% (66) the number of child care center and child care homes that provide developmentally appropriate (quantity and quality) physical activity for young children in the targeted high needs areas across three counties, Broome, Cattaraugus and Chautauqua, by September 2014.
Why Focus on Infants and Young Children?

- **Overweight** 5-year-olds were 4 times as likely as normal weight 5-year-olds to become obese over the next 9 years (through age 14 years).

- Among children who became obese between the ages of 5 and 14 years, nearly half had been **overweight** and 75% had been above the 70th percentile for BMI at kindergarten entry.

*Cunningham, et al., New England J Med 2014*
CTG Physical Activity in Early Child Care

**Activities**
- CTG counties contract w/CCR&R
- CCR&R hire PAS
- Consultant trains PAS and one other CCR&R trainer

**Short Term Outcomes**
- Providers at day care centers & homes receive training and TA from PAS

**Intermediate Outcomes**
- Childcare providers have training/supplies and conduct DAPA
- Childcare administrators support DAPA

**Long Term Outcomes**
- Increase PA in children at child care centers & homes
- Children’s fundamental movement skills improve
- Childhood obesity rates decline
National Physical Activity
Recommendations

- Recommended:
  - Toddlers: ages 1 to 2 years (30 structured, 60 unstructured min/day)
  - Young children (Preschoolers): ages 3 to 5 years
    - At least 60 minutes/day of structured MVPA
    - At least 60 minutes and up to several hours/day of unstructured MVPA, and
      should not be sedentary for more than 60 minutes at a time except when
      sleeping.

- These recommendations were typically **not** observed by the PAS
Develop MATURE Fundamental Movement Skills

- **Locomotor Skills**
  - Run, jump, hop, gallop, slide, leap, skip
- **Object control**
  - Throw, catch, kick, strike, bounce, trap
- **Stability**
  - Stretch, bend, twist, turn, swing, sway, balance…
Build an Infrastructure for PA Training

- Training to support providers in planning and providing PA does not currently exist in NY

- Modeled after CACFP Registered Dieticians working with CCR&Rs

- CCR&Rs have established communication and training mechanisms, and trust with child care providers
Physical Activity Specialists Model

- Possess expertise in PA with degree in Physical Education
- Train and provide technical assistance to teachers
- Model and encourage teachers
- Collect provider information, conduct onsite observations, complete evaluation tools
Training Child Care Providers

- Increase providers knowledge of and comfort in leading PA
- Increase children PA levels
- Increase maturity of children FMS
- Adapt MVPA to all ability and mobility levels and environment
Physical Activity Specialists Model

- **Group trainings (when possible)**
  - Provide an overview of the program and information regarding PA

- **Onsite Technical Assistance**
  - Initial visit/observation
  - 3-5 technical assistance
    - Teach providers one on one how to provide age appropriate PA in the home/center
  - Final Observation
Barriers to Leading Physical Activity

- Limited space, equipment, funds
- Diverse ages and skills among children
- Teacher/staff (dis)comfort with PA
- Lack of knowledge on developmentally appropriate PA (DAPA)
- Provider misperception of PA
Recruitment

- **Provider incentives**
  - Free
  - Training hours
  - Equipment

- **Barriers**
  - Program unknown to providers
  - Day care police
  - Don’t need training hours
  - Fee charges by CCR&R

- **Strategies**
  - Know and trust CCR&R
  - Tag along visits
  - Phone calls
Importance of Equipment

- PAS brought free equipment to providers
- PAS prepared equipment for immediate use
- PAS demonstrated games using equipment
Addressed Misperceptions of PA

- Initially providers viewed PAS as a physical education teacher
  - Some providers were not engaged in physical activities while the trainer was present
    - Set up for lunch
    - Clean up from previous activities

- Initially providers thought Free-Play was Adult-Led physical activity
  - Free-Play and Adult-Led example
    - “For the next 15 minutes you can play with the blocks, trains or read a book”

- By post assessment providers understood and did Adult-Led PA
Success Stories

- Developed positive attitude toward PA
- Accurate perception of Adult-led and Free-play PA
- Providers enthusiastically participated in PA
- Children loved doing the PA
<table>
<thead>
<tr>
<th>Evaluation Questions</th>
<th>Data Sources</th>
<th>Data Collection Method</th>
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</thead>
<tbody>
<tr>
<td>How much training and technical assistance did the physical activity specialists provide?</td>
<td>Encounter logs</td>
<td>Tracked all technical assistance that was provided throughout the intervention</td>
</tr>
<tr>
<td>Did the quality of adult-led play improve at participating sites?</td>
<td>On-site observations</td>
<td>Observed childcare providers before and after they received technical assistance</td>
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<tr>
<td>Were there population-level changes in the quality and quantity of physical activity provided at childcare sites?</td>
<td>County-wide mail survey</td>
<td>Surveyed all childcare providers in the counties before and after the ‘physical activity in childcare’ intervention was conducted</td>
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<tr>
<td>Sites that participated in training program, by number and length of training encounters received (data source: encounter logs)</td>
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<tr>
<td>---------------------------------------------------------</td>
<td></td>
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<tr>
<td><strong>Total number of sites in program</strong></td>
<td><strong>n=85</strong></td>
<td><strong>100%</strong></td>
</tr>
<tr>
<td><strong>Number of encounters received</strong></td>
<td></td>
<td></td>
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<tr>
<td>1-2 encounters</td>
<td>7</td>
<td>8%</td>
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<tr>
<td>3-4 encounters</td>
<td>23</td>
<td>27%</td>
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<tr>
<td>5-6 encounters</td>
<td>28</td>
<td>33%</td>
</tr>
<tr>
<td>7+ encounters</td>
<td>27</td>
<td>32%</td>
</tr>
<tr>
<td><strong>Length of encounters received</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>less than 2 hours</td>
<td>8</td>
<td>9%</td>
</tr>
<tr>
<td>less than 4 hours</td>
<td>27</td>
<td>32%</td>
</tr>
<tr>
<td>less than 6 hours</td>
<td>21</td>
<td>25%</td>
</tr>
<tr>
<td>6+ hours</td>
<td>29</td>
<td>34%</td>
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Training encounters compared to recruitment encounters, by total number and total length (data source: encounter logs)

**Number of Encounters**
- Training: 51%
- Recruitment: 49%

**Length of Encounters**
- Training: 32%
- Recruitment: 68%
Percent of providers observed before and after training (data source: on-site observations)

- clear beginning to activity
- explain activity
- demonstrate activity
- introduce start/stop signals
- provide range of challenges
- adjust skill level
- reinforce start/stop signals
- play with children

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<tr>
<th>Activity</th>
<th>First Assessment %</th>
<th>Last Assessment %</th>
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<tr>
<td>clear beginning to activity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>explain activity</td>
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<tr>
<td>play with children</td>
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Percent of all surveyed sites that reported meeting or exceeding National Standards for physical activity, by year (data source: county wide mail survey)

<table>
<thead>
<tr>
<th></th>
<th>2013</th>
<th>%</th>
<th>2014</th>
<th>%</th>
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<tbody>
<tr>
<td>Total number of surveyed sites</td>
<td>121</td>
<td>100%</td>
<td>113</td>
<td>100%</td>
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<tr>
<td>60-90 minutes a day, or more for outdoor active play</td>
<td>75</td>
<td>63%</td>
<td>63</td>
<td>57%</td>
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<tr>
<td>90-120 minutes a day, or more for daily active play</td>
<td>95</td>
<td>79%</td>
<td>72</td>
<td>65%</td>
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<td>2-3 times a day, or more for adult-led physical activity</td>
<td>62</td>
<td>54%</td>
<td>50</td>
<td>47%</td>
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## Summary of Results

A total of 85 childcare sites participated in the physical activity training program.

After participating in the training program, childcare providers were twice as likely to be observed:

- explaining and demonstrating physical activities
- providing ranges of challenges and adjusting for children with different skill levels
- reinforcing stop and start signals.

The training program may have helped providers understand of the true meaning of ‘active play time’.
Recommendations to keep the program moving forward

- Continue PAS to build infrastructure
- Shift group trainings to online
  - Still retain on-site technical assistance
- Extend training over 6 months
- Add PA training to ECE degree
- Require provider leads PA for licensing
- Monitor provider compliance to PA guidelines
  - Following CACFP model
  - Once training is complete, make semi-annual visits to check on program
QUESTIONS?