Prioritizing school sponsored sport based on observed physical activity

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Adolescent physical activity patterns

• Adolescent inactivity a global concern (Hallal et al., 2012; Peltzer & Pengpid 2011)
Rationale

• Youth sports – Effective mechanism to get PA and social benefits (American Academy of Pediatrics, 2001; 2007)

• Intramurals recommended but little data (Institute of Medicine, 2005)
Diminishing opportunities for children to play school sports (Carrel et al., 2005).
1 in 5 parents in households earning less than $60,000/year say at least one of their children don’t play school sports due to cost

61% of school sport participants pay to play

Average Fee $93
+ Additional Costs $288
Total Average Cost $381

Source: C.S. Mott Children’s Hospital National Poll on Children’s Health, 2012
How much physical activity is actually achieved through Sport Participation (Leek, Carlson, Cain, Henrichon, Rosenberg Patrick, & Sallis, 2011).
Methodology

- 4 Schools in Wake County
  - (Intramural vs Interscholastic)
- Research Design
  - SOPLAY
  - Online Survey
  - Focus Groups
  - Accelerometers – sub group of children from 4 schools
Middle Schools with **Intramurals** had more afterschool sport participants
Percent of Children Observed PA (n=6,821)

- Sedentary: 53%
- Walking: 29.5%
- Vigorous: 17.5%
Girls were more likely to play in Interscholastic Sports and be more physically active than Girls in Intramural Sports.

Boys were more active in Intramural Sports than Boys in Interscholastic Sports.
Objectives

1. Identify observed physical activity levels of school sponsored sports,
2. Determine if there are significant differences in physical activity levels based on sport and school sport policy type (intramural versus interscholastic).
Measures

SOPLAY
System for Observing Play and Leisure Activity in Youth (McKenzie et al., 2002)

School visits (4 Schools):
• 2.30-4:30pm
• April – May; September – December, 2009
• Monday-Thursday

Scans
• 1,510 scans (868 SOPLAY only; 642 reliability)
• 1,189 scans used in analysis (duplicates removed)
• Inter-rater reliability for SOPLAY codes was acceptable (kappa > 0.70)
System for Observing Play and Leisure among Youth (SOPLAY)

Sedentary
Walking (Moderate)
Very Active (Vigorous)

20 or 80%
1 or 4%
4 or 16%
Analysis of individual sports

• Limited to those with 50 observations or more

• Where applicable t-tests were used to identify differences in PA levels based on policy type
Sports with mean MET values above MPA threshold

IM Football

IM Track and Field

IM Soccer
Lowest levels of PA
Sports with highest and lowest levels of PA

- IM Flag Football
- IM Track and Field
- IM Soccer
- IM Basketball
- IM Baseball/Softball
- IS Soccer
- IS Football
- IM Kickball
- IS Baseball/Softball
- IS Baseball/Softball
- IS Cheerleading
Major findings

• IM Sports significantly higher MET values than IS sports ($t=-3.69, \ p<.001$)

• Regression Models showed school policy type (regardless of type of sport) had largest association with PA ($B=.581, \ p<.001$) with the exception of gender ($B=.574, \ p<.001$)

• IM activities ranked in top 4 of 5 sports in terms of PA levels
Recommendations

1. Data can allow schools to be more strategic in programming

2. Adopting intramural programming that is more likely to facilitate activity among girls (e.g., sports exclusively for girls and more student involvement in the selection of intramural sports)

3. A 'full' implementation of an intramural program would likely increase physical activity.
Where next?
## Sport Practice Structure and Physical Activity

### SOHO Recording Form

<table>
<thead>
<tr>
<th>Interval</th>
<th>Player Activity</th>
<th>Practice Content</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>One min</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Two min</td>
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<td>Three min</td>
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<tr>
<td>Four min</td>
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</tbody>
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### Equipment Required / Setup:
- Borders, cones, lines, & net/cage rings
- Ice Time: 50 Minutes

### 60 Practice: 1 & 2

- **Theme / Goals:** Skill Development / Fun

#### Game 1: Ice Hockey

- Ice Hockey Rules
- Ice Time: 50 Minutes

#### Free Pack Time: 5 Minutes
- Ice Hockey Skills

#### Warm Up: 3 min. Starts & Moves
- Ice Hockey Warm-up
- Ice Hockey Skills

#### Station 1: ABC's - Wave Skating
- Ice Hockey Practice
- Time out for Ice Hockey skills

#### Station 2: Activity - Ice Skating
- Ice Hockey Practice
- Time out for Ice Hockey skills

#### Station 3: Stationary Pacing
- Ice Hockey Practice
- Time out for Ice Hockey skills

#### Station 4: Relay Race
- Ice Hockey Practice
- Time out for Ice Hockey skills

#### Station 5: Change Pack Handling
- Ice Hockey Practice
- Time out for Ice Hockey skills

#### Station 6: Obstacle Course
- Ice Hockey Practice
- Time out for Ice Hockey skills

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Questions

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