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Pilot study with overweight youth: Greater Lowell Boys and Girls Club

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UMass CCTS Symposium
May 22, 2012

**Pilot study with overweight youth:
Greater Lowell
Boys and Girls Club**

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DISCLOSURE

I have no actual or potential conflict of interest in relation to this program/ presentation.

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STUDY TEAM

Garry Handelman, UMass Lowell, Co-Principal Investigator

Lori Pbert, UMass Worcester, Co-Principal investigator

Lauren Gellar, UMass Worcester, Nutrition Educator

Jim Lee, UMass Lowell, Economics Analyst

Bill Gilmore, Boys and Girls Club, Fitness Activities Coordinator

**Linda Sou, Lowell Community Health Center
Recruitment Coordinator**

PARTNERS ON PROJECT

University of Massachusetts Lowell	University of Massachusetts Medical School
Greater Lowell Area Boys and Girls Club	Lowell Community Health Center

INTRODUCTION

Provision of programs for overweight youth in the community setting has many advantages, if it can be implemented successfully

- **The medical model, with associated stigma and costs, can be avoided**
- **Building fitness activities into the structure of community program helps integration of youth into the community**
- **These programs have the potential of enhancing the total community commitment to wellness programs**
- **Overweight youth have the POTENTIAL to become ill with diabetes and heart disease as adults, but for the most part these youth are just overweight as teenagers.**

UMass Lowell has a long-standing pattern of community partnerships. “Town-gown” rapport is very good; many local high school graduates attend at the campus, which is well-integrated into the overall activities of the community.

There is a thriving Boys and Girls club (about 500 members) located in the center of town, and Community Health Center with a large membership (about 30,000 adults and children).

Since the working/lower-income population of Lowell has limited access to youth fitness programs, we chose to implement a pilot study with youth at the Club, in collaboration with the Community Health Center. Our study was supported by a grant from UMass Medical Center.

Character & Leadership



The Club develops leadership skills and provides opportunities for planning, decision-making, contributing to Club and community, and celebrating our national heritage.

➔ more

The Arts



These initiatives help young people enhance self-expression and creativity, develop multicultural appreciation, provide exposure to and develop skills in crafts and visual, performing and literary arts.

➔ more

Education & Career Development



The Club provides programs that help youth create aspirations for the future, providing opportunities for career exploration and educational enhancement.

➔ more

Health & Life Skills



These initiatives help youth achieve and maintain healthy, active lifestyles.

➔ more



THE CLUB IS A THRIVING PROGRAM, WITH A VERY DEDICATED STAFF AND GOOD FACILITIES. CHILDREN OFTEN COME TO THE CLUB RIGHT AFTER SCHOOL (SOMETIMES, ON SCHOOL BUSES)

STUDY COMPONENTS



Weekly nutrition classes



Weekly physical activities



**Assessments: lab, fitness
and behaviors**



**Community meals, youth and
their families**

METABOLIC INDICATORS: Plasma samples

Measure	Baseline mean (range)	5-month f/u mean (range)	Mean Difference (95% CI)	p-value
Insulin (μ Units/ml)	20.2 (5.0-51.1)	22.5 (5.6-52.3)	+2.3 (0.2, 5.7)	0.12
Glucose (mg/dL)	86 (75-99)	90 (74-101)	+4 (1.3, 9.8)	0.12
Cholesterol (mg/dL)	129 (85-173)	130 (81-162)	+1 (-12, 14)	0.86
HDL-cholesterol (mg/dL)	37 (22-73)	36 (22-648)	-1 (-5.4, 3.4)	0.62
Triglycerides (mg/dL)	104 (46-165)	90 (50-150)	-14 (-43, 16)	0.34
C-reactive protein (mg/L)	4.1 (0.4-17.0)	3.6 (0.2-13.6)	-0.5 (-2.9, 2.1)	0.69

Metabolic indicators: BMI

Measure	Baseline mean (range)	5-month f/u mean (range)	Mean Difference (95% CI)	p-value
Weight (kgs)	64.0 (46.9-87.5)	66.4 (45.6-91.4)	+2.4 (1.1-3.7)	0.001
BMI	28.8 (20.2-35.5)	28.7 (21.8-36.8)	-0.1 (-1.0, 0.8)	0.885
BMI Percentile	97.1 (82.0-99.0)	96.9 (88.0-99.0)	-0.2 (-1.3, 1.0)	0.820

DIETARY BEHAVIORS

Measure	Baseline	5-month f/u	Pearson Chi-square (df)	P-value
Daily vegetable servings				
None	4	2	3.4 (3.0)	0.341
1	3	1		
2	4	5		
3 or more	3	7		
Daily fruit servings				
None	2	3	9.2 (3.0)	0.026
1	2	1		
2	11	4		
3 or more	1	8		
Weekly fast food meals				
< 1/week	9	9	1.3 (3.0)	0.723
1/week	2	1		
2/week	2	1		
3-5/week	1	0		

MEASURES OF PHYSICAL ACTIVITY

Measure	Baseline mean	5-month f/u mean	Mean Difference (95% CI)	P-value
Days physically active last week	3.9	4.7	+0.8 (-0.7, 2.2)	0.261
Days physically active usual week	4.2	5.4	+0.93 (-0.6, 2.4)	0.207

PROBLEMS WE ENCOUNTERED/POTENTIAL SOLUTIONS

PROBLEM TO BE SOLVED	SOLUTIONS/RESEARCH DIRECTIONS
Club/Community Center recruitment of youth to activity	<ul style="list-style-type: none"> ● Club staff contacts parents, asks if child can be part of obesity intervention
Long-term staff commitment	<ul style="list-style-type: none"> ● Club budgets funds for staff member ● Grad student or post-doc from campus ● Long-term sustaining grants
Parental participation	<ul style="list-style-type: none"> ● Club setting is ideal for monthly parent classes on diet and physical activity
Research outcomes: evidence of benefit over several years with moderate-intensity intervention	<ul style="list-style-type: none"> ● Study coordinator conducts periodic interviews for assessing fitness behaviors ● Long-term improvements in BMI

LESSONS LEARNED (1)

ORGANIZE PROJECT SO THAT STUDY INVESTIGATOR STAFF UNDERTAKES RECRUITMENT AND DATA COLLECTION

IN WORKING WITH COMMUNITY PARTNERS, RESEARCHERS SHOULD PLAN TO CENTRALIZE RESPONSIBILITY FOR MAJOR DECISION MAKING

LESSONS LEARNED (2)

POSITIVE SOCIAL ASPECTS OF A GOOD YOUTH CENTER

This club provides a very positive and supportive environment for youth who attend there, and the overweight youth (some with BMI approach 40) achieved good social integration and acceptance.

LESSON LEARNED : Because of the many positive social and community elements, a long-term moderate intensity program could be provided, that would emphasize the development of sustained life style changes as the youth reach high school age.

LESSONS LEARNED (3)

The interest and commitment shown by the youth and their families suggests that major improvements could be made over a 3-4 year period. This can be done with a moderate intensity program with sustained reinforcement.

LESSON LEARNED: Recruitment of a long term staff member (employed from within, or from the University) to work with the overweight youth at the Club, can provide continuity and sustained support.



OUR SHARED OBJECTIVE FOR YOUTH