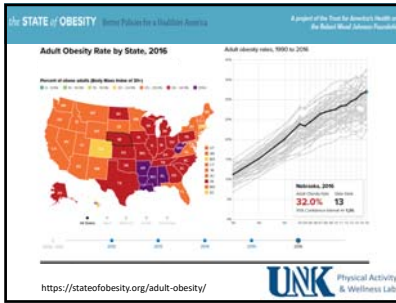


building healthy families

### A Community Approach to Pediatric Obesity Treatment: Kearney Public Schools and Building Healthy Families

Kate Heelan, PhD  
Professor/ Director  
Physical Activity and Wellness Lab  
KSS Department  
University of Nebraska Kearney



### Economic Cost

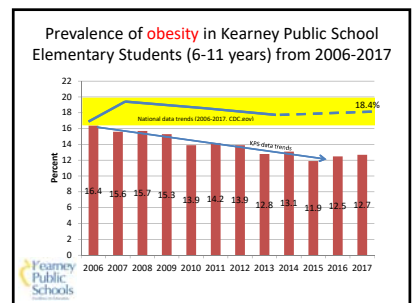
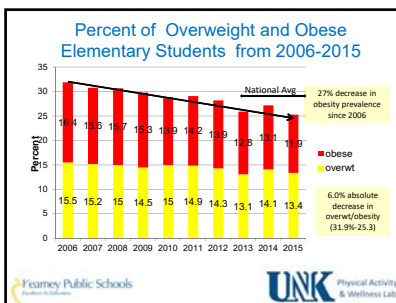
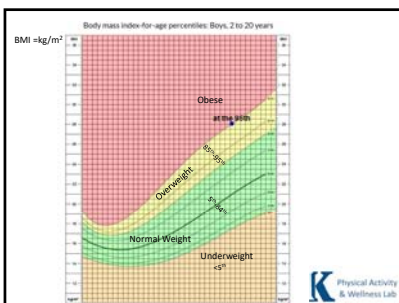
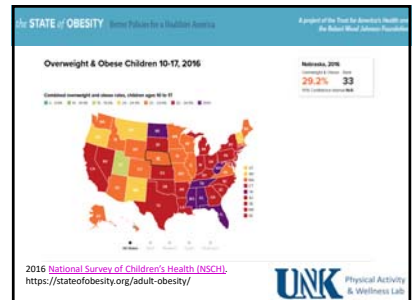
- Obesity-related health care costs for Nebraska were estimated at **\$823 million** for 2013.
- The medical costs paid by third-party entities for people who are obese were projected to be **\$1,429 higher** than those of normal weight.

Health Aff September/October 2009 28:5w822-w831; <http://www.nccor.org/downloads/CoStateObesityReport-FINAL.pdf>

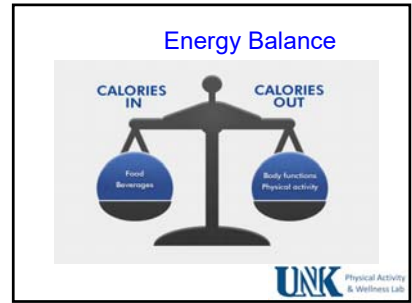
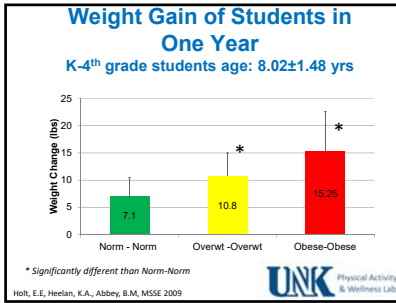
### A Definite Problem

- Over the last three decades, obesity rates have tripled for children aged 6-11 years.
- At present, approximately 12.7 million children aged 2-19 years of age are considered obese.

Department of Health and Human Services (2015). Overweight and obesity. Center for Disease Control and Prevention.



UNK AND NEBRASKA STATE UNIVERSITY  
building healthy families  
Nebraska  
A Community Approach to Pediatric Obesity PREVENTION and Treatment  
Healthy Schools  
2001-2004  
Greater Nebraska Physical Activity Institute  
UNK Physical Activity & Wellness Lab



It is not an obesity epidemic, but an epidemic of .....

poor eating      physical inactivity  
UNK Physical Activity & Wellness Lab

- Designedtomove.org video

### How have things changed

UNK Physical Activity & Wellness Lab

At one time...The Morning Commute

300 Calories Per Hour  
UNK Physical Activity & Wellness Lab

Now...The Morning Commute

< 25 Calories Per Hour  
UNK Physical Activity & Wellness Lab

### Learn with Movement

CFI LEANINGTON  
UNK Physical Activity & Wellness Lab



**UNK** Physical Activity & Wellness Lab

**Snacks play a major role in our children's diets**

**Yearney Public Schools**  
Excellence In Education

**Kearney Healthy Start PEP Grant**

**Major Objectives** March 2008- May 2011

- To increase the physical activity and fitness levels of KPS students
- To decrease the percentage of overweight and obese students

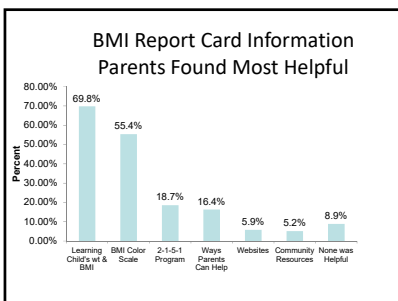
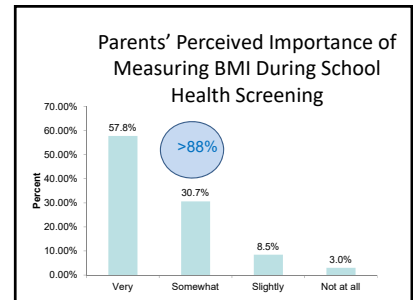
**BMI Screening and Parental Notification Program**

– Starting in 2006 – Weight and Height Screening and BMI Report Cards were created and distributed each year to increase parental awareness of weight status and health.

**UNK** Physical Activity & Wellness Lab

**Yearney Public Schools**  
UNIVERSITY OF NEBRASKA  
**UNK**  
KEARNEY

**BMI Report Card**



**Reporting of BMI Data to Administration**

- In December 2009, presented data to KPS Administrative cabinet.
- Turning Point for KPS
  - The data made the problem personal in our own backyard

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**District Wide Wellness Policy**

- In Spring 2010 it was an objective of the PEP grant coordinator and evaluator to ensure all schools were aware of the policy and implemented the policy within their schools to create consistent messages and a culture of healthy eating and physical activity

**UNK** Physical Activity & Wellness Lab

## NEW FOOD Service



- All you can eat fruit & vegetable salad bars.
- Incorporating spinach and romaine with iceberg into salad mix.
- All salad dressings are reduced fat or fat free.
- Only 1% white milk or skim chocolate or strawberry milk is offered.


More whole grains, such as whole grain breads, bun and whole grain pasta and brown rice.

- Healthy snacks only
- Eliminate classroom food rewards
- Healthy snack sales instead of bake sales
- PTO Healthy Fundraisers



## Keeping it healthy!

## A HEALTHY Education in the classroom

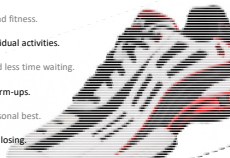


HealthyStart Gardens Program  
A Partnership Between Public Schools, Local Businesses, Landscapers & Gardeners

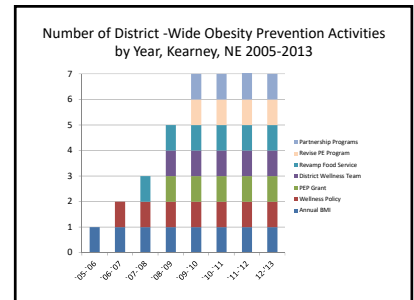
2012

## A CHANGE IN PHYSICAL education


- SPARK curriculum = Sports, Play, and Active Recreation for Kids.
- Focus on lifetime skills, activities and fitness.
- Less team activities and more individual activities.
- More equipment so students spend less time waiting.
- Less stretching and more active warm-ups.
- More concern with a student's personal best.
- Less concentration on winning and losing.




## MARATHON running before & after school



- KPS is an example of a multi-strategy, multi-level approach to pediatric obesity prevention.
- The multi-level approach to prevention was also complemented with a pediatric obesity treatment program.




building healthy families

Kate Heelan, PhD



building healthy families

## PEDIATRICS

OFFICIAL JOURNAL OF THE AMERICAN ACADEMY OF PEDIATRICS


Expert Committee Recommendations Regarding the Prevention, Assessment, and Treatment of Child and Adolescent Overweight and Obesity: Summary Report

Sarah E. Barlow and the Expert Committee  
Pediatrics 2007;120:164-192  
DOI: 10.1542/pech.2007.2329C



### Building Healthy Families

- What is it?
  - Weight loss program consisting of physical activity, nutrition education, and behavior modification
  - 12 sessions
    - Assessments at baseline and 12 weeks
    - Follow-up at 6 months
  - Weekly 2 hour time commitment
  - Family-based program



### Building Healthy Families Staff

**Program Directors**

- Dr. Kate Heelan Professor/Director (UNK)
- Dr. Nancy Foster Behavioral Psychologist (Munroe-Meyer Institute/UNMC)
- Kaiti George, RD, LMNT Dietitian (HyVee)

**Medical Director and Pediatrician**

- Dr. Angie Kratovil-Stava

**Physical Activity Coordinator**

- KSS Dept Faculty

**Program Coordinator**

- Dr. Bryce Abbey

**Community Outreach Coordinator**

- Dr. Todd Barte



### What to expect

- The key components of the program include:
  - Reinforcing environment
  - Practice
  - Individualized assessments




### Typical session:

- Each week includes:
  - Weight measure (at check-in)
  - Nutritional education (30 minutes)
  - Behavior modification/goal-setting (20 minutes)
  - Family lifestyles physical activity (30 minutes)





### Weekly Weigh-in

- All families members logged in personal family binder
  - Weekly weight
  - Weekly weight change
  - Total weight loss to date



### Program Goals

	Weight Loss	Physical Activity	Red Foods
<b>Children</b>	0.5-1.0 lb per week	Increase steps per day to: 7,000 steps 8,000 steps 11,000 steps	Starting with 8 reds/day, decrease until eating no more than 2 reds/day
<b>Adults</b>	1-2 lbs per week	5 of 7 days per week	



### Nutrition

- Use of Stop Light Eating Plan
  - (Modified from Epstein & Squires, 1988).




### Stop Light Eating Plan

Foods that may be eaten without concern	Foods to choose with caution, they are OK, but	Foods to limit in your diet. Eat no more than one serving.
Foods with less than 2% fat/sodium such as: mustards, ketchup, bar b-q sauce, salsa, etc.	Cereals with the BIG "G" or Smart Choice green spot. Plain breads, bagel, rolls, light popcorn, pancakes	Foods with greater than 20% kcal/serving. Foods with greater than 1g of fat/serving.
Whole bread, baguette, pasta, and rice Salting crackers, fat free granola, air popped popcorn	Apple butter, dried fruits with sugar, 100% juice-sweetened	Concessions/sodas/pancakes, rice & corn, fried rice, gold fish crackers, muffins, cornbread, stuffing, flavored popcorn
Apples, bananas, peach, pear, berries, grapes, oranges, 100% juice-unsweetened	Asparagus, broccoli, beans, peppers, corn, carrots, cucumbers, lettuce	Juice drinks (less than 100% fruit)
Asparagus, broccoli, beans, peppers, corn, carrots, cucumbers, lettuce	Skin milk, low fat cottage cheese	Avocado, French fries, later lots
1% and 2% milk, light cottage cheese, light		Most nuts, regular cheese



#### Thursday Physical Activity

St. Joelle and I try to jog 3 days

#### Thursday Goals


Goals	Steps
...	...
...	...
...	240

#### Friday Meals & Snacks

...

#### Friday Meals Cont.

...



### Nutrition Education

**Nutrition Segment (30 minutes)** - Nutrition lessons aim to teach realistic ways for the families to eat healthy

Week	Nutrition Topics
1	Stoplight Diet/ Energy Balance
2	Portion Size/Reading Labels
3	Fruits/Vegetables
4	Whole Grains
5	Snacking
6	Kitchen Redesign
7	Protein
8	Modifying recipes
9	Dining out
10	Dairy

### Family Behavioral Goal-setting

Efforts to identify barriers and develop strategies to meet program goals are made with individual family members.

- Weight loss goals
- Physical activity goals
- Red food goals

Examples:

- Eat all meals/snacks at kitchen table without TV
- Pre-bag chips into serving sizes
- Take an evening walk as a family
- Take TV out of the bedroom

### Strategy Goals

- Example Strategies to meet program goals by overcoming barriers through planning and problem solving:
  - Plan specific time to grocery shop
  - Plan specific time to prepare meals
  - Pack lunches/dinners
  - Pre-plan meals eaten out
  - Plan specific time for exercise - personally and for family
  - Transportation planning to get kids to activities
  - Identify social gatherings that will increase food intake
  - Schedule time to be active with kids
  - Plan for cold weather, childcare
  - Develop plan to support each others goals

### Physical Activity

- Family based "Fun" Activities and Games

### Who Qualifies

Body mass index-for-age percentiles

- Families with at least one child with a BMI > 95<sup>th</sup> percentile according to the CDC growth charts.
- Parents with a BMI > 30 kg/m<sup>2</sup>

### BMI Report Card

Divisional Report Card

Helpful Information for Healthy Living

### Assessments

- Baseline
- 12 weeks
- 6 months

### 3 day food log

Date	Breakfast	Lunch	Dinner	Snacks	Weight	Height
1						
2						
3						

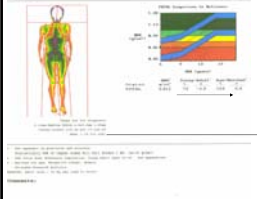
### Height and Weight

**DEXA – Body Composition Measures**



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**Young girl**




Bone mineral density

Body fat percentage

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**Accelerometers and Fitbits**



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**Blood Pressure**



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**Fitness Test**



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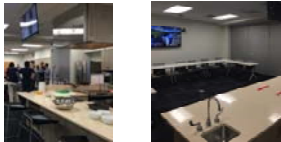
**Blood Chemistry**

- Hemoglobin A1C
- Total Cholesterol
  - LDL, HDL, Triglycerides
- Two Liver Enzymes – AST and ALT
- \*\* Only for children > 97<sup>th</sup> percentile and parents with BMI > 30

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**Rural Community Connection**

- Facilitator, meeting location and physical activity leader at each location
- Connect to UNK via Zoom



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**Curriculum**



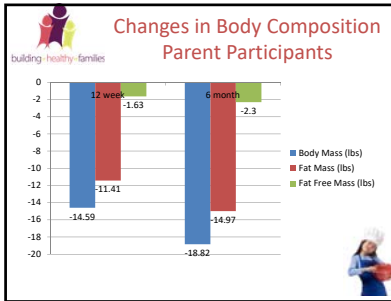
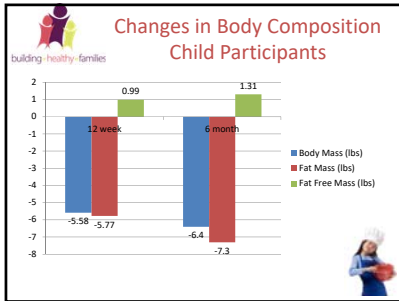
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**Who have been the participants?**

- 60 Families (68 children, 97 parents)

Child	Parents
52% pre-hypertensive or hypertensive	80% pre-hypertensive or hypertensive
25% high Total Cholesterol	24% high Total Cholesterol
66% low HDL	65% low HDL
69% > 97 <sup>th</sup> percentile	65% obese

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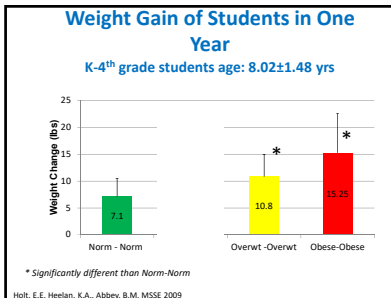
- ### Successes
- 91% of our participants have lost at least some weight with 52% losing at least 5% of their body mass in 12 weeks.
  - Some families did not log eating, did not exercise regularly and admit, they did not change their family environment.

### Testimonials

"I think the reason the program has worked has been the ongoing support. The weekly weigh-ins and one-on-one counseling sessions have really helped to keep us on track, set goals, and examine obstacles."

- The other night Johnny was asked if he was still doing the Building Healthy Families stuff by someone. Without prompting from me or even hesitation his reply was "It's something I will be doing for the rest of my life." -10 year old.

"The people are fun, I gained muscle and lost weight by eating healthier and exercising more! It was so rewarding to see his face when his weight fell in the "green" on his health report."



### A Community Approach to Pediatric Obesity PREVENTION and Treatment

2001-2004

UNK 2000 Report Card

Nebraska

Healthy SCHOOLS

2001-2004

Greater Nebraska Physical Activity Initiative

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rural futures

UNK Physical Activity & Wellness Lab