



# Background

- The number of overweight children has more than tripled over the past three decades[2].
- One in every three California children is overweight or obese[1];
- Results of the latest Los Angeles County Health Survey indicate that over half (55%) of the county's adult population are either overweight or obese.

[1] NICHQ Childhood Obesity Action Network. California Fact Sheet. Retrieved on April 24, 2008. Available at <http://nschdata.org/Viewdocument.aspx?item=203>.

[2] DHHS, 2001. The Surgeon General's Call to Action to Prevent and Decrease Overweight and Obesity. Available at <http://www.surgeongeneral.gov/topics/obesity>.

# Associated Cost

- **Healthcare costs associated with obesity are on the rise**
  - In 2000, Californians paid \$21 billion in health care costs and lost productivity due to overweight, obesity and physical inactivity<sup>[1]</sup>.
- **Hospitals absorb much of this cost, as individuals lacking insurance and access to preventative care often turn to hospitals for treatment of issues related to this chronic disease.**

<sup>[1]</sup> Children's Hospital Boston, March 16, 2005. Explosion of child obesity predicted to shorten life expectancy: trend would reverse two centuries of progress. Available at: [http://www.eureka.org/pub\\_releases/2005-03/chb-eoc031605.php](http://www.eureka.org/pub_releases/2005-03/chb-eoc031605.php).

# Chronic Disease Management Consortium

- California Hospital Medical Center (CHMC)
- Childrens Hospital Los Angeles (CHLA)
- Harbor/UCLA Medical Center (Harbor)
- Huntington Memorial Hospital (HMH)
- Good Samaritan Hospital
- National Health Foundation (NHF)



# Projects

- Pasadena Community Asthma Project
- Healthy Eating Lifestyle Project
- Type 2 Diabetes Project
- Heart HELP (Cardiovascular Disease) Project

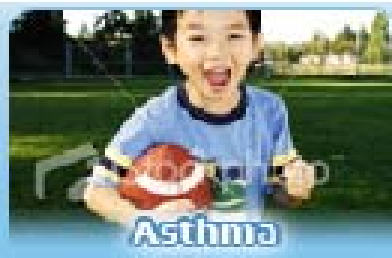
→ Future: CHF & COPD



# Los Angeles Chronic Disease Management Consortium

*Helping families live better*

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## *Welcome . . .*

This website features projects of the Chronic Disease Management Consortium, a group of Los Angeles area hospitals and organizations that have come together to address chronic diseases such as asthma, childhood obesity, type 2 diabetes and cardiovascular disease.

*This site is currently under construction.*

## Partners

- ❖ California Hospital Medical Center
- ❖ Childrens Hospital Los Angeles
- ❖ Huntington Memorial
- ❖ Harbor-UCLA Medical Center
- ❖ Good Samaritan Hospital
- ❖ National Health Foundation

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# HELP Overview

- Free family-focused and community-based pediatric obesity intervention program
- Curriculum was developed in 2004 by a multidisciplinary group of health professionals
- Implemented at each hospital for four years



# HELP Overview Cont.

- Includes medical and behavioral assessments
- Interactive educational workshops on nutrition and physical activity
- Telephone follow-ups
- Opportunities for physical activity and exercise to promote healthy lifestyles

# HELP Overview Cont.

- **HELP utilizes paraprofessionals (i.e. lay health educators and promotores) and professionals to help implement the program and ensure its cultural relevance and appropriateness for communities**
- **Web-based data collection system is used to track and evaluate program participants' progress and outcomes**

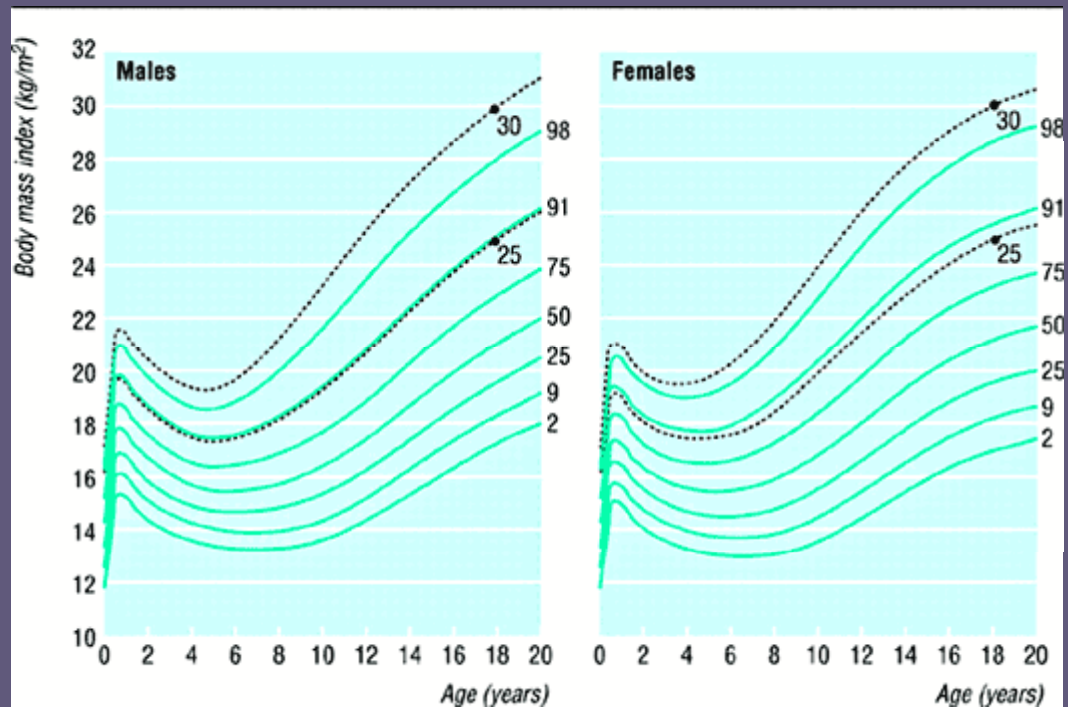
# Objective

- To compare BMI z-scores and health behaviors of participants attending professional and paraprofessional HELP programs.



# BMI Z-score

- BMI changes with age in children
- Age and Gender Specific
- Continuous Variable



# Measurable Objectives

- **Clinical**
  - Reduced weight or weight velocity
  - Normal cholesterol levels
  - Reduced % body fat
  - Improved exercise tolerance
- **Self-reported**
  - Improved food selection
  - Increased exercise frequency
  - Reduced TV viewing/screen time
  - Decreased fast food purchases
  - Improved nutrition and exercise self-efficacy



# Who is Eligible?

- Children 5-12 years
- BMI >85% for age
- No dietary or physical restrictions
- An adult partner
- Family's willingness to commit to full participation

# Methods

## Sampling

- Eligible children ages 5-12 years of age were referred by their physicians to hospitals
  - Hospitals used either professional or paraprofessionals

## Design

- Non-equivalent control group

# Methods (cont.)

## Intervention

- Dietitians developed curriculum
- Delivered in English and Spanish
- Five 2 hour education/activity modules
- Follow-up 3-6 months after the 5th module
- Targeted at caregiver and child
- Program ran from January 2005 to December 2007

# Methods (cont.)

## Data

- All hospitals collected data at 1st and 5th modules and at follow-up
- Height and weight measured by program staff
- Self report of nutrition and physical activities

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H E L P  
**HEALTHY EATING LIFESTYLE PROGRAM**  
Funded by the UniHealth Foundation



[MATERIALS/DOCUMENTS](#)

[PROGRAM DATA](#)

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**COLLABORATING ORGANIZATIONS:**

- California Hospital Medical Center
- Childrens Hospital Los Angeles
- Harbor/UCLA Medical Center
- Huntington Memorial Hospital
- National Health Foundation

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**MATERIALS / DOCUMENTS**

- **Program Documents**
- **Data Documents**
- **UniHealth Progress Reports**
- **Press Releases/Marketing**
- **Obesity News and Resources**
- **Links**

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Individual Hospital Report

- Demographic-Adults
- Demographic-Children
- Workshop & Attendance
- Aggregate Progress Report
- Individual Progress Report
- Support Group Attendance
- Missing Cholesterol Data
- Incomplete Files
- Invalid Attendance Files

All Hospital Summary Report

- Demographic-Adults
- Demographic-Children
- Workshop & Attendance
- Aggregate Progress Report
- Individual Progress Report
- Support Group Attendance
- All Summary Report
- Paired Aggregate Progress

**Report Dates:**

From: 10/01/2005  
To: 09/18/2008

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- Castaneda, Norma
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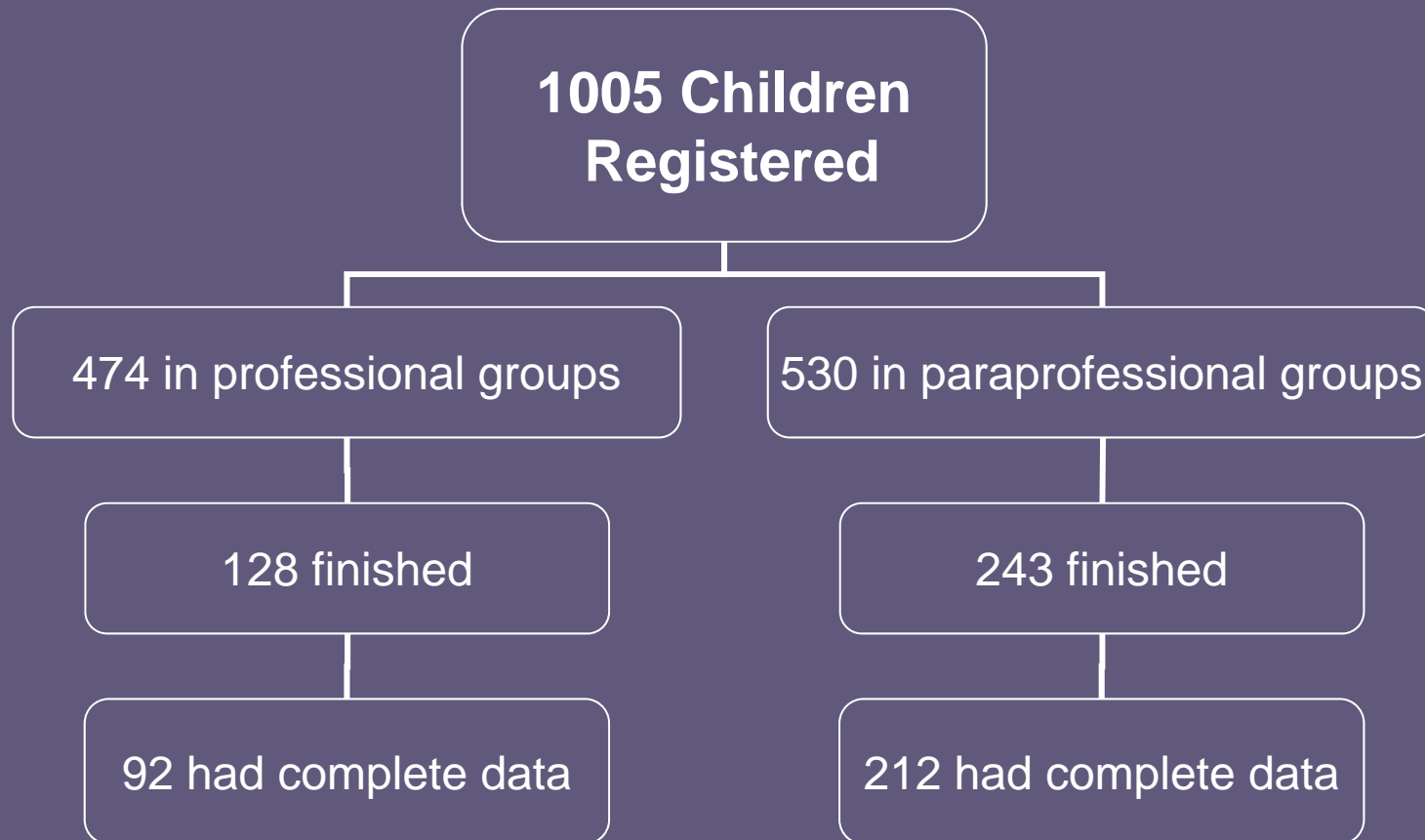
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# Analysis

- Paired t-test to compare BMI z-scores of prof. vs. paraprof. participants at enrollment and follow-up
- Robust ordinary least squares (OLS) regression to predict effect of changes in nutrition and physical activity scores on BMI z-scores
- Linear fixed effects models to control for individual level differences that are unmeasured, constant overtime, and maybe correlated with eating better or exercising more (e.g., motivation)

# Results



# Results

VARIABLE		MEAN	S.D.
BMI Z-Score	Registration	2.25	0.48
	Follow-up	2.09	0.57
In paraprofessional groups		70%	-
Male		53%	-
Latino		88%	-
Age (years)		9.2	2.0
Length of follow-up (days)		135	43
Height (inches)	Registration	55.5	5.8
	Follow-up	57.2	5.6
Nutrition Score	Registration	19.3	2.8
	Follow-up	21.0	2.6
Physical Activity Score	Registration	13.5	2.5
	Follow-up	15.3	2.6

# BMI Z-score Reduction

<b>BMI Z-score Reduction Between registration and follow-up</b>	<b>Mean</b>	<b>S.E.</b>
<b>All participants</b>	<b>-0.17*</b>	<b>0.017</b>
<b>Paraprofessional groups</b>	<b>-0.20*</b>	<b>0.023</b>
<b>Professional groups</b>	<b>-0.09*</b>	<b>0.018</b>
<b>Paraprof. –Prof. difference</b>	<b>-0.11*</b>	<b>0.036</b>

# Results

- After controlling for demographic differences, HELP's paraprofessional-led groups yielded greater pediatric BMI z-score reductions than professional-led groups
- Improved nutrition behaviors predicted BMI z-score reduction in paraprofessional groups after controlling for individual-level heterogeneity



# Barriers

- **Threats to comparability of paraprofessional and professional programs**
  - Selection bias
  - Experimental mortality (attrition) bias
- **Results may not generalize to non-Latino populations or Latino populations residing outside Southern California**

# Conclusion

- BMI z-score reductions in HELP's paraprofessional-led groups were equivalent to those in other professional programs
- Differences between prof. and paraprof. programs may be attributable to the paraprofessional model's focus on culturally sensitive health education
- Future studies on paraprofessional-led health interventions should examine the cost effectiveness of these programs versus those led by professionals

# Replication

- Due to success
  - Replication package has been completed
  - Is available for any hospital to replicate
  - Specific replication criteria



# Acknowledgements

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