



Effect of Intervention on the Nutrition and Physical Activity
Practices in Child Care Centers in Service Planning Area (SPA) 6
in Los Angeles County (LAC)

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Presenters Disclosures

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- (1) The following personal financial relationships with commercial interests relevant to this presentation existed during the past 12 months:**

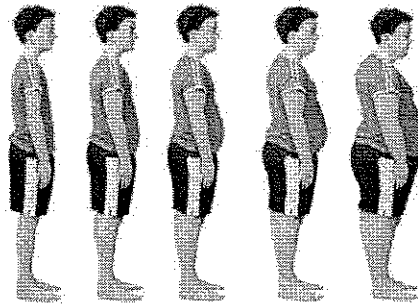
“No relationships to disclose”

Objectives

- 1) To assess the nutrition and physical activity environment (practices and policies) in child care centers
- 2) To examine the impact of interventions to promote nutrition and physical activity standards:
 - 4-hour training (Full Intervention)
 - Mailing of guidelines (Limited Intervention)

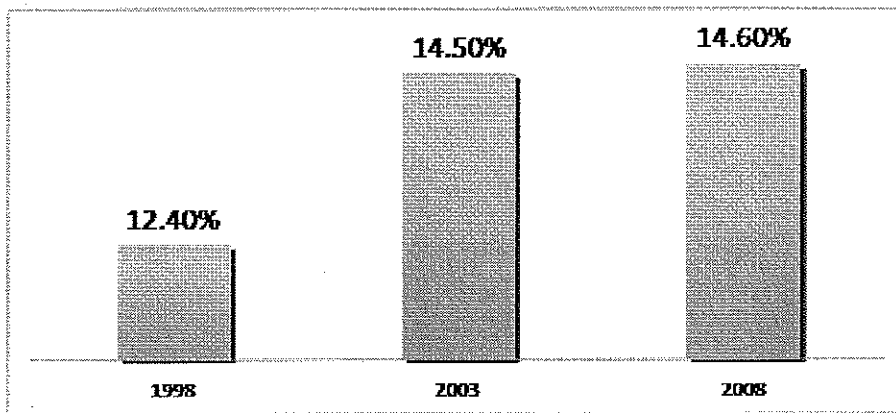


SUPERSIZING Our Children



Serious Consequences

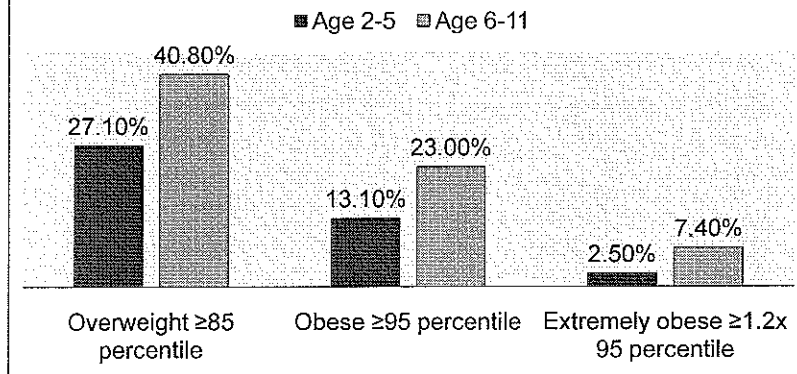
Obesity Prevalence Among US Low-Income, Preschool-Aged (2 to 4 years) Children



Centers for Disease Control and Prevention. (2010). Obesity and Overweight Childhood Data. Retrieved from <http://www.cdc.gov/obesity/childhood/lowincome.html>
Data from Pediatric Nutrition Surveillance System

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Prevalence of overweight, obesity, and extreme obesity in patients aged 2-11 in Southern California stratified by age

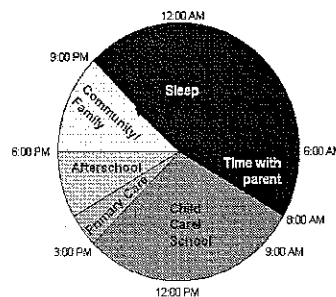


Source: Jacobsen, S.J., et al. (2010) Prevalence of extreme obesity in a multiethnic cohort of children and adolescents. *The Journal of Pediatrics*
Data from Kaiser Permanente – managed care patients

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Children Develop Health Habits EARLY!

- Parents who are overweight or obese have children who become overweight and obese (5)
- Children establish food preferences early
- Influences

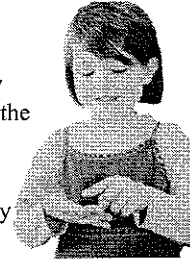


Design

- This randomized controlled design
 - Three groups of centers were selected:
 - 1) Control
 - 2) Limited Intervention (received nutrition and physical activity guidelines by mail)
 - 3) Full Intervention (received 4 hour training on guidelines plus practice in policy development)
- Nutrition and physical activity environment assessed at baseline and six months after implementation of the intervention (training).

Methods

- 120 Child Care Centers (CCC) were selected, from a list of 345 CCC
- Validated assessment tools published in the Nutrition Physical Activity Self-Assessments for Child-Care (NAP SACC) were used to evaluate the quality of CCC nutrition and physical activity environments¹³.
 - Observation of CCC by trained staff using Environment and Policy Assessment and Observation (EPAO) instrument and document review.
 - A written self-assessment survey questionnaire tool was given to the directors to self-assess their perceptions of nutrition and physical activity practices in their child care centers



Full Intervention

- Four-hour training
 - Present the standards related to nutrition and physical activity
 - Present some sample policies related to the standards
 - Hands-on practice in developing policies

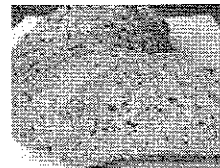
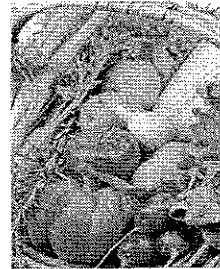
Limited Intervention

After initial assessment – then randomization – centers were mailed the following with a cover letter:

- Standards (as presented in Nemours – *Best Practices for Healthy Eating: A Guide to Help Children Grow Up Healthy 2008*)
- Summary of the 2010 IOM standards
- Policy and planning worksheets with sample policies supporting standards

What Nutrition Standards are Being Proposed?

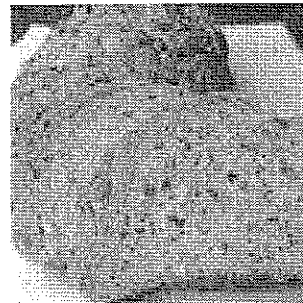
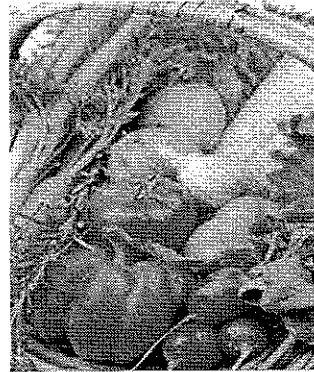
- Non-fat or 1% Milk for 2 years and older
- Fruit at each meal and snack
- Two colorful vegetables at lunch
- At least 2 servings of whole-grain products a day such as oatmeal, brown rice, whole-grain pasta or whole-grain tortillas.
- Eliminate deep-frying or fat frying
- Limit fried potatoes
- Promote family-style serving with each meal to teach portion control.
- Restrict processed meats (luncheon meats, hotdogs, bologna, sausage) to reduce unhealthy fats and sodium



Proposed Standards and Policies

Nutrition

- Non-fat or 1% Milk for 2 years and older
- Fruit at each meal and snack
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- At least 2 servings of whole-grain products a day such as oatmeal, brown rice, whole-grain pasta or whole-grain tortillas.
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Physical Activities

- Ensure at least 60 minutes or more of structured and unstructured physical activity a day.
- Children should not be sedentary for more than 30 minutes, except when sleeping.
- Limit television (screen time) to no more than 1-2 hours a day.



Current Nutrition Recommendations from the Nemours Health and Prevention Services and Institute of Medicine (IOM 2010)

Childhood obesity is an epidemic in the United States. To address childhood obesity, programs such as MyPyramid and Nemours Health and Prevention Services (Nemours) provide nutrition recommendations for children across age groups. Recently, the Institute of Medicine (IOM) published a set of evidence-based recommendations based on the MyPyramid program. The new IOM recommendations consist of multiple components that share great similarity with the Nemours recommendations.

Major differences between Nemours and IOM recommendations include:

- IOM emphasizes 5 meal components for lunch:
 1. 1% milk
 2. ½ cup of fruit
 3. 2 portions of ¼ cup each of colorful vegetables
 4. Whole grains
 5. Lean meat/Alternative

- IOM categorizes the vegetables into 5 categories (dark green, orange, beans/legume, starchy, and others) to promote increasing food variety

- IOM recommends 2 types of vegetables be served during lunch (¼ cup each type) from the 5 categories

Both Nemours and the IOM agree on:

- Serving low-fat or skim milk as one component of a meal
- Serving lean meat or meat alternatives as one component of a meal
- Serving whole grain bread, pasta/noodle, or cereals as one component of a meal
- Having water available for children always
- Serving a variety of colorful vegetables

What Physical Activity Standards are being Proposed ?

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Results

- Baseline
 - 119 child care centers
 - a mean of 16 children (range 5 – 75), ages 2 - 6 were present during the observation day
 - No significant differences in total nutrition score were found between the full intervention, limited intervention and control groups ($p > 0.05$)
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Descriptive Statistics Final Observation (N=106)

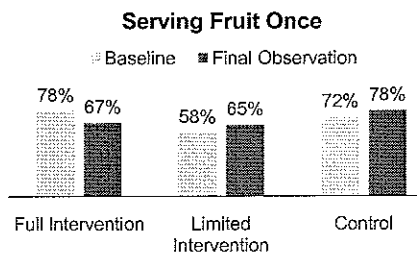
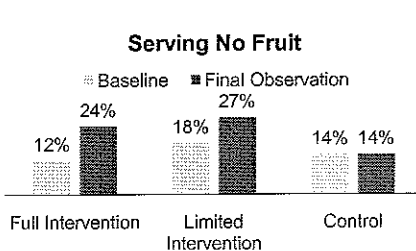
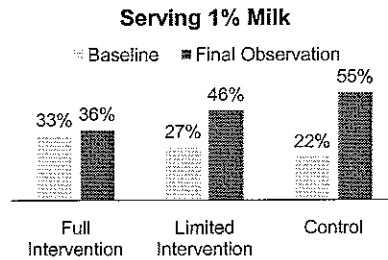
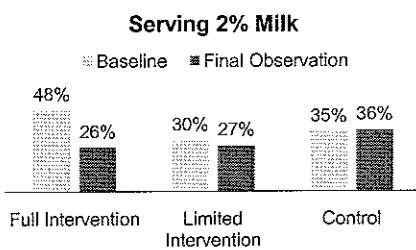
Nutrition Environment	Median Score		
	Full Intervention	Limited Intervention	Control
FV	7.8	7.8	9.4
Grains	7.5	6.7	10.0
HSHF	15.6	14.4	14.4
BEV	14.5	13.6	14.0
SBnutr	15.8	15.0	15.0
NutrEnv	13.3	13.3	15.0
NutrTE	8.0	8.0	13.3
NutrPol	8.3	6.7	10.0

FV: fruit/vegetables
 Grains: whole grain
 HSHF: high sugar/high fat
 BEV: beverage
 Sbnutr: staff behavior nutrition
 NutrEnv: nutrition environment
 NutrTE: nutrition training/education
 NutrPol: nutrition policy

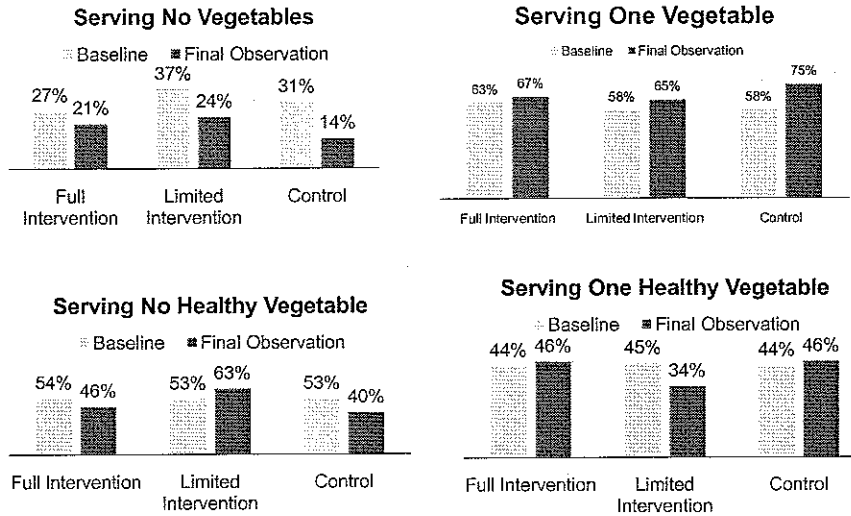
Physical Activity Environment	Median Score		
	Full Intervention	Limited Intervention	Control
Act	6.7	6.7	6.7
Sed	13.3	13.3	13.3
SedEnv	6.7	6.7	6.7
PortEnv	11.4	11.4	11.4
FixEnv	9.4	11.3	12.5
SBpa	16.0	12.0	14.0
PaTE	2.5	5.0	0
PaPol	0	0	0

Act: active opportunity
 Sed: sedentary opportunity
 SedEnv: sedentary Environment
 PortEnv: portable play environ
 FixEnv: fixed play environ
 SBpa: staff behavior phys. activity
 PaTE: physical activity training/education
 PaPol: physical activity policy

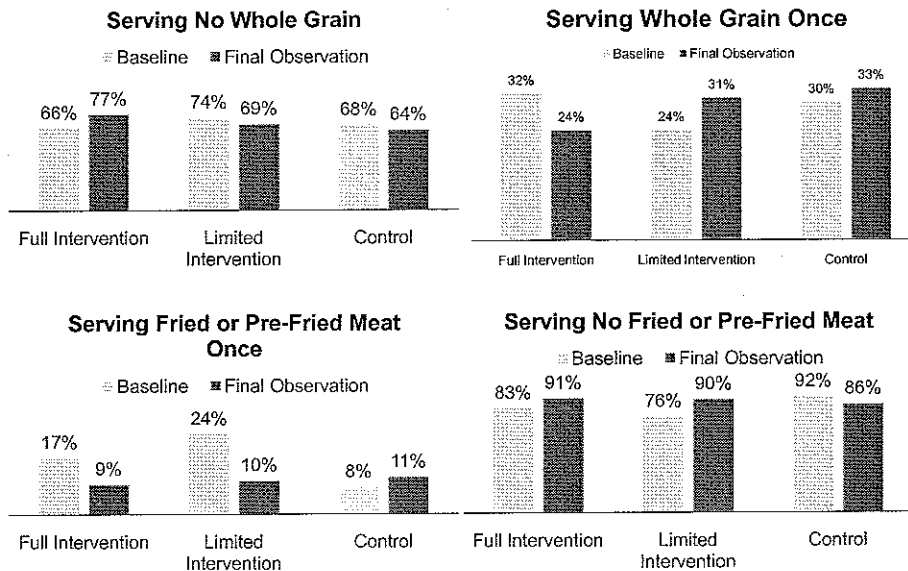
Descriptive Statistics Final Observation (N=106)



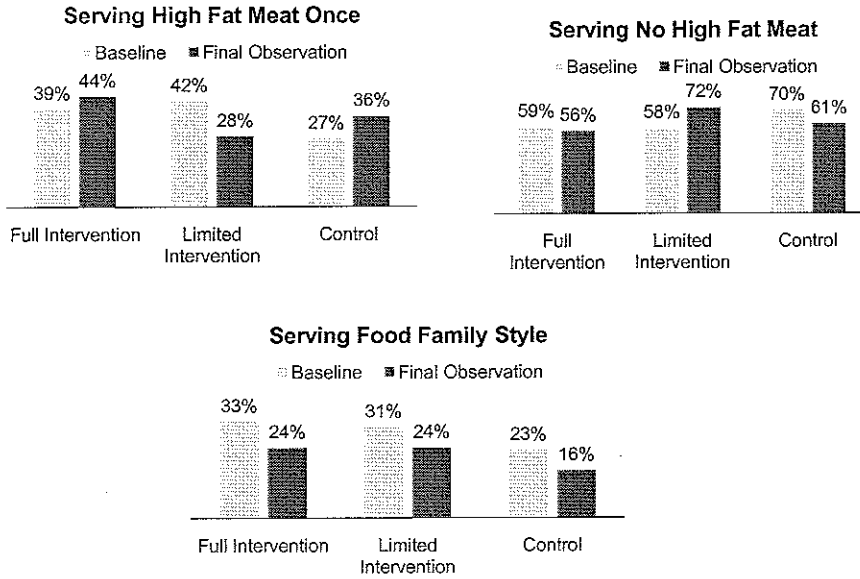
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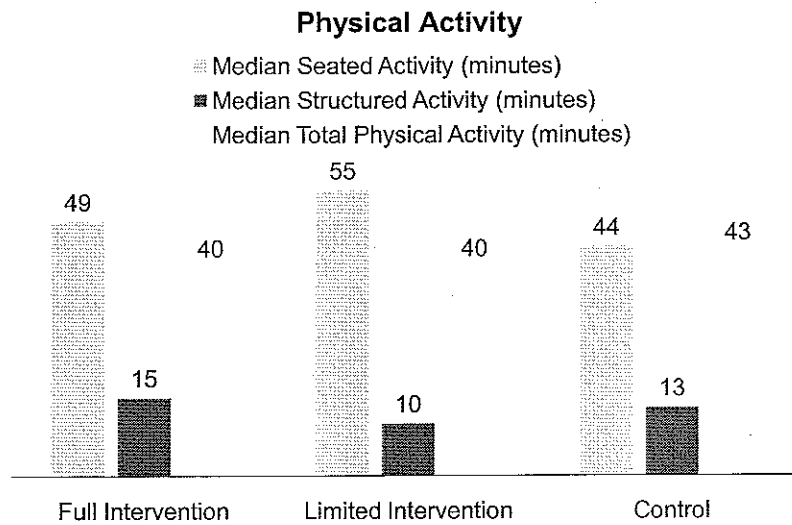
Descriptive Statistics Final Observation (N=106)



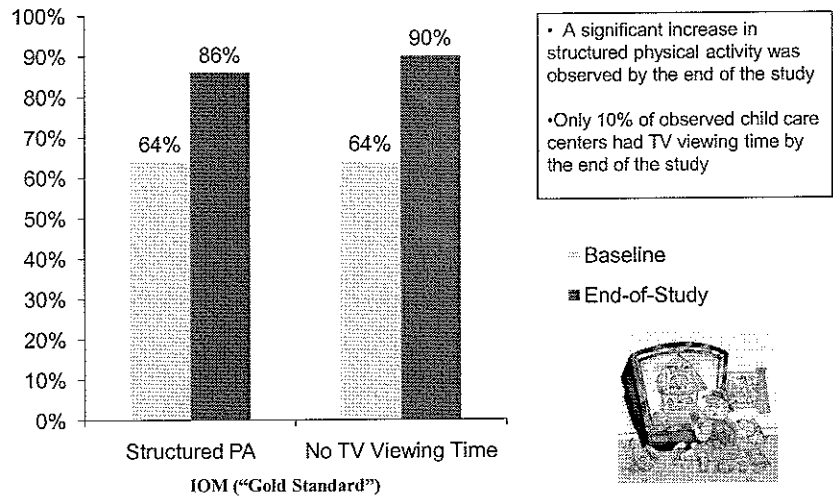
Descriptive Statistics Final Observation (N=106)



Descriptive Statistics Final Observation (N=106)



IOM ("Gold Standards") Some Success Structured Physical Activity and Limited TV Time



Some Success a Long Way to Go

- Whole grains
- Low-fat milk
- Water availability
- No sweetened beverages
- Structured physical activity appearing
- Eliminating fried/pre-fried meats
- More fruits
- More healthy vegetables

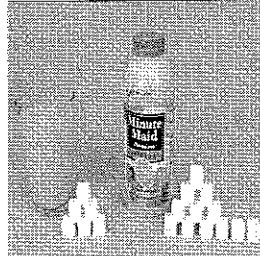


Legislation Works ✓ = compliance observed

CA Legislation - AB 2084

For Child Care:

- ✓ Low-fat or nonfat milk
- ✓ Eliminate sugary juice (only ½ cup of 100% fruit juice – and not to substitute juice for whole fruit)
- ✓ No beverages with added sweeteners
- ✓ Water provided throughout the day and with meals



Still Absent and Needed

- Lessons on nutrition and physical activity
- Training for staff on these subjects
- Policies supporting guidelines
 - No outside food
 - Healthy options for birthdays and celebrations



Implications

- Intervention
 - Expand training opportunities
 - Implement ‘evidence-based’ interventions
 - Need to understand why the mailed materials showed some negative effect
- Need to train Multiple audiences
 - Not just directors, but staff, cooks, teachers
 - Parents
 - Children (may become instrumental in change)

We Need Nutrition and Physical Activity Standards for Licensed Child Care

- Current standards (for nutrition and physical activity) are nearly non-existent ⁽¹⁰⁾
- Standards are needed to ensure licensed providers create an environment that encourages good nutrition and physical activity habits ⁽¹¹⁾



CACFP – Child and Adult Care Food Program

- USDA reimburses child care providers for meals served to low-income children (similar to the school meal program).
- CACFP requires nutrition standards for reimbursement.
- Research shows meals served through CACFP are healthier than non-CACFP.
- Less than 50% of providers in LA County and California are on CACFP.

We need Consistent Messages and Multiple Interventions

- Recommendations consistent with current recommended dietary guidelines for Americans (DGA)
- Consistent with First Lady Obama's childhood obesity campaign, involving families in, "Let's Move!"





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Questions?

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- (8) 2007 California Health Interview Survey, UCLA Center for Health Policy Research
- (9) Los Angeles County public school children, grades 5,7, and 9. Prepared by the Los Angeles County Department of Public Health, Office of Health Assessment and Epidemiology, Epidemiology Unit; Data Obtained from the 2007 California Physical Fitness Testing Program, California department of Education
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