Combating Childhood Obesity in Minnesota:
The Role of Early Childcare Programs
Outline

• Background
  – obesity, early care settings, model standards

• Study description and results
  – Food, Activity, Education, Training

• Implications & recommendations
  – Across stakeholder groups

• Next steps
THE EXTENT OF THE PROBLEM
Outlook and Complexities

• By 2015, 75% of adults will be overweight or obese, and 41% will be obese.

• Minority and low-socioeconomic-status groups are disproportionately affected at all ages.  
  Wang, 2007

• The associations of obesity with gender, age, ethnicity, and socioeconomic status are complex and dynamic.
Social-ecological Model (Yancy 2008)

- Communities
- Worksites
- Healthcare
- Schools and Child Care
- Home

- Demographic Factors (e.g., age, sex SES, race/ethnicity)
- Psychosocial Factors
- Gene-Environment Interactions
- Other Factors

- Government
- Public health
- Agriculture
- Education
- Land Use and Transportation
- Communities
- Industry
  - Food
  - Beverage
  - Retail
  - Leisure and Recreation
  - Entertainment

- Social Norms and Values
- Sectors of Influence
- Behavioral Settings
- Individual Factors

- Food and Beverage Intake
- Physical Activity

- Energy Intake
- Energy Expenditure

- Energy Balance

*Abbreviation: SES, Socioeconomic*
Diet and Activity Patterns of Preschool Children

- 50% of 2 year olds and 25% of 3 year olds drink whole milk
- 25% consume no fruits, 30% consume no vegetables on a given day
- French fries are most commonly eaten vegetables
- 85% of preschoolers consume sugar sweetened beverage or snack daily

- Spend 4 hours a day watching tv
  - 70% of 2 years old exceed 2 hours of tv viewing each day
  - Children in early care spend 80% of time being sedentary
17% (or 12.5 million) of children aged 2—19 years are obese.

Since 1980, obesity prevalence among children has tripled.
Weight Status for Children Participating in MN-WIC
% Overweight or Obese, June 2009
By WIC Grantee

State average for children aged 2-5 in WIC:
Overweight or Obese: 31.8% (13,914 of 43,840 total)
(Overweight but not obese: 17.5%; Obese: 14.3%)

% Children Overweight or Obese
- 22.7 - 29.9
- 30.0 - 39.9
- 40.0 - 49.9
- 50.0 - 59.9
- 60.0 - 69.4

Obese: BMI >95th percentile for age and gender; Overweight: BMI >85th percentile to <95th percentile for age and gender
* = fewer than 20 total children in this Local Agency participated who are overweight or obese

Grantees not included in total children in Hennepin County: Bloomington 32.1%; Childrens 34.9%
Obesity and Youth

• 25% of obese preschool children and 50% of obese school-age children become obese adults. Guo, 2000

• The tracking of childhood BMI is stronger in Blacks than in Whites.
  - 65% of overweight White girls versus 84% of Black girls became obese adults; for boys, 71% vs. 82%. Wang, 2007
Interventions to prevent obesity in 0-5 year olds: A systematic review (Hesketh, Campbell 2010)

- 9 studies in preschool/childcare settings since 2003
  - Mostly RCT designs, limited theory, mixed outcomes: 3 effective, 3 no effect, 3 unclear
  - Most studies directed at physical activity promotion
  - Most studies lacked a parent component

- Providers are receptive to interventions

- Urgent need to build an evidence base
  - Current attempts are “piece-meal”
ABOUT EARLY CARE SETTINGS
Early Care Options

1) Center-based (state regulated)
   - Head Start – low income (federally regulated)
   - Licensed Group: 2,058 centers

2) Family-based (state regulated)
   - Licensed Family: 11,428 centers

About 277,407 spaces for children in regulated child care in MN

3) Family, Friend, Neighbor (unlicensed/unregulated)
In Minnesota...

- 60% of mothers with preschool-aged children are employed
  - 70% full-time and 30% part-time
- 70% of MN children ages 0-5 attend childcare
  - 60% spending 29 hours a week
- 50%-100% of food is consumed in childcare
Child and Adult Care Food Program (CACFP)

- Regulates snacks and meals
- Provider reimbursement (low income)
- In MN, 87% Family-based and 41% Center-based programs participate in CACFP
FEDERAL INITIATIVES
MODEL STANDARDS
2010 Dietary Guidelines for Americans

- Enjoy your food, but eat less.
- Avoid oversized portions.
- Make half your plate fruits and vegetables.
- Consume at least half of all grains as whole grains.
- Switch to fat-free or low fat (1%) milk.
- Compare sodium in foods like soup, bread, and frozen meals and choose lower numbers.
- Drink water instead of sugary drinks.
• Aligning Dietary Guidance for All (11/4/10)

• Implement new meal requirements that promote eating more fruits and vegetables, whole grain-rich foods, and foods that are lower in fat, sugar, and salt;

• Offer training and technical assistance to help CACFP providers understand and abide by these new requirements; and

• Review and update the Meal Requirements
Highlights of Healthy, Hunger Free Kids Act 2010

• Requires only low fat milk options to be served to children over age 2
• Requires drinking water to be made available freely
• Implement IOM CACFP meal/nutrition pattern recommendations within 18 months
• Update CACFP guidelines and reimbursement rates to providers at least every 10 years
• Provide technical assistance: healthy meals/snacks, physical activity and limit electronic media use
Model State Early Care Standards

Healthy Eating

- High fat, sugar, salt foods are served < 1x per week or not at all
- Sugar-sweetened beverages are not served
- Children ages 2+ are served reduced fat milk (1% or skim)
- Clean drinking water is available for kids throughout the day
- Juice (100%) is limited to 4 - 6oz or less per day for children ages 1+
- Food is not used as reward or punishment
- Nutrition education is offered to providers at least 1x/year and to children at least 3x/year
- Child care staff sits and eats meals and snacks with children
- Providers encourage, but do not force children to eat
Model State Early Care Standards

Physical Activity

- Children are provided with 60 min PA/day, both teacher led and free play
- TV, video, and computer time is limited to 1x/week or less and not more than 30 minutes each time
- Active play is not withheld as punishment
- Children with special needs are provided with opportunities for active play while other children are physically active
- Outdoor active play time is provided at least 2x/day
- PA education is offered to child care providers at least 1x/year and to children at least 3x/year
- At least one provider joins children in active play at least 1x/day
- Shaded area provided during outdoor play
- Children are not seated for periods longer than 30 min (except for naps and meals)
Co-Principal Investigators:
Tara LaRowe, PhD UW-Madison
Susie Nanney, PhD UMN
Study Aim

- Identify the food/nutrition and physical activity environments of early care and education settings (MN & WI)
Sampling Strategy

- Licensed providers serving 2-5 year olds
  - Provider information publicly available
- Stratified random sampling
  - 500 Head Start/Center & 500 Family for each state
  - All 73 tribe serving
- 109-item survey online, hard copy, phone
  - Summer-Fall 2010
Supporting Healthy Food and Activity Environments in Child Care Settings

The purpose of this bi-state survey is to understand the challenges that early child care and education providers might face if improving nutrition and physical activity best-practices in childcare. A mix of Head Start, Center-based and Family-based providers are being asked to complete this 30-minute survey either by paper, the Internet (preferred) or by phone. We ask that only one provider, director, or teacher most familiar with the program nutrition and physical activity practices complete the survey. One $20 gift card to Target or Walmart is available for those who complete the survey by September 10.

* We will use your licensure number along with an assigned ID number to track survey response rates. Your licensure number will not be tied to the information you provide. In order to ensure confidentiality of your survey responses, a secure server will be used to save your responses and results of this study will be grouped together in a final report.

Child Care License Number:

* Assigned ID (from envelope label):
On a scale of 1 to 5, one being very difficult and five being not at all difficult, how hard would it be if your program tried to:

<table>
<thead>
<tr>
<th>Question</th>
<th>I do this already</th>
<th>Very difficult</th>
<th>Somewhat difficult</th>
<th>Not at all difficult</th>
<th>I prefer not to answer</th>
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<tbody>
<tr>
<td>Serve high fat foods less than once per week or not at all? Examples</td>
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<td>include hot dogs, bologna, fish sticks, tator-tots, French fries, chips,</td>
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<td>cookies, cakes, etc.</td>
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<td>Serve high sugar foods less than once per week or not at all? Examples</td>
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<td>include cakes, cookies, muffins, sugary cereals, frozen treats, candy,</td>
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<td>etc.</td>
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<td>Serve low-sodium meals or snacks every day?</td>
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<td>Serve only whole grain foods? Examples include 100% whole wheat bread,</td>
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<td>whole grain cereal such as Cheerios® or Raisin Bran, oatmeal, brown</td>
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<td>rice, whole grain pasta, etc.</td>
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<td>Serve at least one fruit and/or non-fried vegetable at every meal and</td>
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<td>snack?</td>
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<td>Serve only white, low-fat milk (1% or skim) to children two years of age</td>
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<td>and older?</td>
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<td>Serve only 100% fruit juice and limit to 4-6 ounces per day or less?</td>
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<td>Never serve sugar sweetened beverages? Examples include regular soda pop,</td>
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<td>chocolate milk, Hawaiian Punch, Tang, Kool-Aid, Sunny Delight,</td>
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<td>Gatorade, PowerAden, etc.</td>
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<td>Children can access drinking water freely at other times besides meal</td>
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<td>and snack times?</td>
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<td>Providers attend healthy eating and nutrition training at least once per</td>
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<td>year, not counting food safety (CACFP)?</td>
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<td>Refrain from using food for reward or punishment? For example, giving</td>
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44% Response Rate

- 468 MN providers
  - 242 (48%) Centers
    - 32 Head Start
  - 204 (41%) Family
  - 22 (30%) Tribes
Nutrition Best Practices and Barriers

MINNESOTA RESULTS
Foods at Early Care and Education Programs

- Serve low fat foods: 35%
- Serve low sugar foods: 32%
- Serve low sodium foods: 21%
- Serve only whole grains: 22%
- Serve at least 1 FV: 53%

_already doing_
Foods at Early Care and Education Programs

- Serve low fat foods: 23%
- Serve low sugar foods: 32%
- Serve low sodium foods: 32%
- Serve only whole grains: 30%
- Serve at least 1 FV: 17%

Legend: 
- Already doing
- Not doing, but would be easy to do
Beverages at Early Care and Education Programs

- Offer water freely: 70%
- Serve nonfat milk: 51%
- Serve low/no sugar drinks: 60%
- Serve 100% juice: 63%

Already doing
Beverages at Early Care and Education Programs

- **offer water freely**: 7%
- **serve nonfat milk**: 18%
- **serve low/no sugar drinks**: 13%
- **serve 100% juice**: 10%

Legend:
- Already doing
- Not doing, but would be easy to do
Role Modeling & Food Behaviors

- Have 1 adult sit/eat with children: 59%
- Allow children to decide when full: 47%
- Refrain from using food as reward/punish: 67%

[Chart indicating the percentages of respondents who already do these practices]
Role Modeling & Food Behaviors

- **Have 1 adult sit/eat with children**: 29%
- **Allow children to decide when full**: 24%
- **Refrain from using food as reward/punish**: 29%

- **Already do this**
- **Don't do this, but would be easy to**
Training, Education & Policy

- Attend nutrition training 1x/yr: 34%
- Provide nutrition education 3x/yr: 38%
- Have a nutrition policy: 23%

Already do
Training, Education & Policy

- Attend nutrition training 1x/yr: 34%
- Provide nutrition education 3x/yr: 30%
- Have a nutrition policy: 23%

Already do | Don't do, but would be easy to
Nutrition Best Practices-Summary

• Many report “already doing”

• Most challenging areas:
  – Serve only whole grains, low-sodium meals and snacks, limit high fat foods, training, adult sit/eat meals, healthy eating policy

• “Somewhat to Very Difficult”
  – Center providers report more difficulty implementing beverage practices
  – Family providers report more difficulty implementing role modeling/behavior practices: adult sitting/eating with child and allowing child to decide when full
Nutrition Best Practices - Barriers

Cost of purchasing healthier foods
Lack of time to prepare and serve healthy foods
Limited space for food storage (refrigerator and cabinet space)
Children would not respond well
Lack of control over the types of meals and snacks provided to us
Lack of equipment or space to adequately prepare healthful foods

- All/Combined
- Center
- Family
Physical Activity Best Practices and Barriers

MINNESOTA RESULTS
Physical Activity at Early Care and Education Programs

- Limit inactive time to less than 30 min: 55%
- Limit TV, video and computer time to 60 min/day: 66%
- Provide activities for special needs children: 35%
- Provide physical activity at least 2x/day: 52%
- Provide at least 60 min of activity/day: 62%
Physical Activity at Early Care and Education Programs

- Limit inactive time to less than 30 min: 12%
- Limit TV, video and computer time to 60 min/day: 7%
- Provide activities for special needs children: 10%
- Provide physical activity at least 2x/day: 9%
- Provide at least 60 min of activity/day: 7%

Key:
- Light blue: Already doing
- Dark blue: Not doing, but would be easy to do
Role Modeling & Discipline

- Adult join children in activity: 57%
- Refrain from disciplining by taking away activity: 63%

[already do this]

University of Minnesota
Driven to Discover
Role Modeling & Discipline

Adult join children in activity
- Already do this: 71%
- Don't do this, but would be easy to: 29%

Refrain from disciplining by taking away activity
- Already do this: 73%
- Don't do this, but would be easy to: 27%
PA Best Practices - Summary

• More report “already doing”

• Most challenging areas:
  – Attending training, provide outdoor play 2X daily, write/implement a policy

• “Somewhat to Very Difficult”
  – Family providers report more difficulty provider joining gross motor activities, limiting screen time, limit inactive time
Physical Activity - Barriers

Barriers to Improving Physical Activity Environments in Child Care Settings

- Weather
- Cost of purchasing equipment for active play
- Lack of indoor space for gross motor physical activity
- Parents sending children to school without appropriate clothing for gross motor activities
- Lack of equipment that could be utilized for safe, active play or gross motor activities
- Lack of time in our schedule for gross motor physical activity

Breakdown:
- All/Combined
- Center
- Family
Training and technology

MINNESOTA RESULTS
Training Needs

- Effective ways to engage parents: 73%
- Fun/easy nutrition curriculum: 71%
- Low cost healthy foods: 70%
- Low cost indoor/outdoor activities: 68%
- Fun/easy activity curriculum: 65%
- Fit it all within the day: 63%
- Effective ways to get kids to eat: 58%
- Ways to role model activity: 54%
- Ways to role model healthy eating: 48%

Providers want training
Training Needs - Summary

• Many training needs identified

• Willingness to try DVD (78%) and CD-Rom (62%) technology

• More completed nutrition (34%) than activity (16%) training in past year

• No training need differences by provider type
PRACTICAL INTERPRETATION & RECOMMENDATIONS FOR MINNESOTA
Current Child Care Regulations In Minnesota

- Nutrition
- Physical Activity
- Screen Time
- Inadequate, outdated
Costs Of NOT Addressing This Issue

• Increasing rates of obesity
• Fewer children ready to learn/ready for school
• Increasing incidence of chronic diseases
• Increasing health care costs

DOES MINNESOTA HAVE THE POLITICAL WILL TO MAKE CHANGE?
Promising Developments

- Visibility of child health issues
- Revision of national guidelines
- Future changes to CACFP
- Scope of federal grants
- Early childhood comprehensive systems planning
Recommendations for MINNESOTA LAWMAKERS

• Update child care regulations
• Adequately fund a statewide (QRIS)
• Support inter-agency coordination
• Be visionaries: Restructure child care funding systems and supports
Recommendations for
STATE AGENCIES AND CHILD CARE SUPPORT ORGANIZATIONS

• Clear, consistent guidelines
• Health-related training
• Technical assistance and mentoring
Recommendations for CHILD CARE PROVIDERS AND ADMINISTRATORS

• Be aware of the connection between health and learning
• Be willing to learn and change
• Set higher standards
• Take a proactive approach to children’s health
Recommendations for HEALTH CARE PROFESSIONALS

• Become more informed about nutrition and physical activity
• Be willing to address this uncomfortable subject with parents
• Collect tools and resources
• Provide health promotion recommendations and resources to parents
• Advocate for more time to counsel patients on prevention
Recommendations for PARENTS AND FAMILY MEMBERS

- Be informed
- Advocate for high standards in your child care program
- Support child care providers’ efforts
- Hold providers accountable
Next Steps

• Conducting provider online focus groups
  – “don’t do this, but would be easy to do”

• Developing policy briefs, summary sheets
  – Legislators, state agencies, organizations, providers and parents
  – Webinar, mailings, newsletters
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