One Size Does Not Fit All!
Community Based Partnerships for Childhood Obesity

Carolyn Montoya MSN CPNP
Doctoral Candidate
University of New Mexico, College of Nursing
New Mexico Nurse Practitioner Council Annual Conference
Caring for New Mexico
April 20, 2012

Prevalence

- Obesity & overweight prevalence rates for children in the US, 2-19 yrs. (Ogden, et al., 2012)
  - 16.9% obese
  - 31.8% overweight

- Minority children have even higher rates (Ogden, et al., 2012)
  - 27.9% white children overweight/obese
  - 39.1% for Hispanics and non-Hispanic Blacks
  - Prevalence of obesity alone expected to increase to 30% for all children with Hispanic boys and Black adolescent girls a full 10% higher (Wang, et al., 2012)
Childhood Obesity
New Mexico

- Albuquerque Journal, 2/25/12
- “8-Year-Olds Tipping Scales at 100 Pounds” (Yttebrouck, 2012).
- “The Weight of Our Children”
  - NM Dept. of Health 2012 report
  - Randomly selected 28 schools
  - Measured > 3,600 kinder & 3rd graders
  - Obese 3rd graders:
    • 1 in 8 White non-Hispanic
    • 1 in 5 Hispanic
    • 1 in 3 American Indian

Consequences of Obesity

- Coronary Heart Disease
- Type 2 Diabetes
- Emdometrial, breast & colon cancers
- Hypetension
- Dyslipidemia
- Stroke
- Liver & gall bladder disease
- Sleep apnea
- Osteoarthritis
- Abnormal menses & Infertility (CDC, 2011a)
Obesity & Overweight Definitions in Children

- BMI cutoff points utilized and based on age and gender for children 2-18 years-of-age.

- Older definitions
  - At risk for overweight: $\geq 85^{th}$ to $< 95^{th}$%
  - Overweight: BMI $> 95\%$

- Current definitions (CDC, 2011b)
  - Overweight: BMI $> 85^{th}$ to $< 95^{th}$%
  - Obese: BMI $> 95^{th}$%

Why Community Based Participatory (CBPR) Research?

- No single strategy has been proven most effective for prevention or treatment of childhood obesity.

- “A coordinated community approach to obesity intervention is often the missing component necessary to supporting lifestyle changes that influence childhood obesity” (DeMattia & Denney, 2008, p. 87).
Ecological Model & CBPR

Ecological Model of Childhood obesity recognizes interaction among community, parent and child characteristics. (Davison & Birch, 2001).

Ecological Model Childhood Overweight

- **Social environment (networks)**
  - Family
  - Communities
  - Social support
  - Schools
  - Government and political structures and policies
  - Economic systems
  - Food production and distribution systems
  - Food marketing and media
  - Agriculture policies
  - Food and beverage industry

- **Micro-level environments (sectors)**
  - Micro-level settings
  - Individual factors (personal)
  - Opportunities
  - Availability
  - Policies, regulations and inspiratory or policy actions

- **Cognitive factors**
  - Attitudes, preferences, knowledge, values
  - Skills and behaviors
  - Lifestyle
  - Biological (e.g., genes, gender, age)
  - Demographics (e.g., income, race/ethnicity)

- **Outcome expectations**
  - Motivations
  - Self-efficacy
  - Behavioral capability

- **Physical environments (sectors)**
  - Schools
  - Work sites
  - Neighbohoods and communities
  - Hospitals and healthcare systems
  - Family
  - Friends
  - Others

CBPR Studies & Pediatric Obesity

- CBPR Utilized
  -
  -
  -
- Outcome measures
  - significant.
  - Communities have instituted changes in nutrition and exercise based on the work of community action groups.

Selected CBPR Studies with Minority Populations

- African-American children
  - Study by Burnet, et al. (2007)
  - N=32 children; 9-13 years; 35 adults; all from Chicago’s South Side
  - Focus groups; Interviews
  - Barriers to healthy nutrition and exercise included cost, time, & safety
  - Community advisory board developed; nutrition and exercise sessions in local community locations planned
American Indian (AI) Children

- **Pathways** Gittelsohn, et al., 2003; Davis, 2003
  - 5 year study with implementation
  - N=1,704 children in 41 schools in seven AI communities
  - AI included all levels of the project; representatives from tribes provided input and voted on all materials used
  - Increase in health knowledge; children’s body fat not significantly decreased
  - Social learning may not be appropriate for AI; interventions may need to be more tribal specific; and school intervention may need to be linked to family intervention.

Hispanic Children

- No specific CBPR studies found looking at obesity interventions for Hispanic children.
- Clark, Bunik & Johnson (2010)
  - Focused interviews with 7 curanderos (lay healers)
  - Belief that obesity for Hispanics result of social marginalization
  - Recommended participatory activities for children
  - Tension between curanderos & researchers
  - Collaboration with curanderos and promotoras (lay health workers) would require embracing healers as full participants
Innovative Designs

- **Photovoice**
  - Utilized in 9 community health initiatives in Colorado
  - 4 themes identified: 1. need for safe sidewalks, 2. access to healthy foods, 3. environmental safety, 4. parks & recreation areas unsafe and dirty
- **Participatory Photo Mapping (PPM)** (Dennis, et al., 2009)
  - Children examined aerial photographs of the neighborhood, took photographs, tracked routes and presented findings to decision makers

Example of CBPR in New Mexico
Supporting Nutrition Policy Implementation in a Northern New Mexico School District
Research Team

- University of New Mexico
  - College of Nursing faculty: Carolyn Montoya
  - Public Health Program faculty: Victoria Sanchez
  - Nutrition Program faculty: Elizabeth Yakes
    - Layla Wall, Tina Alexander, Mary Carathers
  - MPH student (graduate coordinator): Rose Chavez

- San Miguel Family and Community Health Council

- Northern New Mexico school district
  - Michell Aragon
  - Director of Student Nutrition: Pat Baca
  - Health Teachers: Patrick Garcia (high school) and April Ortiz (middle school)
  - Science teacher and Dream Makers Health Careers Program Advisor: Donna Ortiz

Background

- One potential way to address childhood obesity = wellness policies mandated by the Child Nutrition and WIC Reauthorization Act of 2004

- Major health policy issues:
  - Weakly worded wellness policies
  - Lack of evaluation of wellness policy implementation or on-going policy review and revision (lack of funding)
Preliminary Studies

- Initial study done by Dr. Victoria Sanchez (UNM PHP Program) and her partners from the Community Diabetes Collaborative (NM DOH Office of Community Health Partnerships and Diabetes Prevention and Control Program; San Miguel County Health Council).
- Pilot study (2009-2010)
  - school districts in one community
  - **Methods used:** policy scan, key informant interviews, focus groups
  - **Findings:**
    - Wide variation in the implementation of the wellness policies within the school district
    - Major barriers identified:
      - Lack of universal understanding of the wellness policies among adults in the district
      - Uncertainty regarding who was accountable for enforcing the policies
      - Difficulty in changing behaviors in the context of cultural and environmental norms in community

Background

- Example policies from district:
  1) “Competitive Food Sales and marketing will be consistent with nutritional education and health promotion”
  2) “In school sponsored fundraisers, before, during, and after-school activities, healthy choices conforming to the requirements for all schools in food and beverages sold. 6.12.5.8 NMAC shall be followed in at least-fifty (50%) percent of the offerings for sale or distribution”
Principles

- Co-learning process
- Local capacity building
- Long-term commitment
- Balance research and action

Israel, et al., 1998; 2003

Aims/objectives

- **Specific Aim 1:**
  - Data used: student and parent food surveys, Nutrition Environment Measures Survey (NEMS)
  - Objective: Gain a better understanding of the cultural and environmental norms for nutrition in the community and create avenues for student and parent engagement in advocating for nutrition policy-related changes.

- **Specific Aim 2:**
  - Data used: food waste assessments
  - Objective: Document student consumption patterns and assess the effects of a pilot training designed to empower foodservice workers to improve and expand healthy food choices in the school cafeterias.
Aims/objectives

- **Specific Aim 3:**
  - Materials used: community forums, data reports and web-based modalities
  - Objective: Disseminate the results of the food environment assessments and food waste assessments to students, parents, school personnel and the community in a timely manner to increase understanding and awareness of the nutrition policies and allow for dialogue on nutrition policy-related activities that could be implemented during the following school year.

Methods

- **Cross-sectional food surveys**
  - 180 high school/middle school students and 50 elementary school parents
  - Adapted with permission from the Active Where? Adolescent Survey [Active Living Research program – RWJF], pilot tested with students, and modified

- **Cross-sectional food environment assessments (Dream Makers)**
  - Assess stores/fast food restaurants frequented by students during off campus lunch
  - Nutrition Environment Measures Survey for Stores (NEMS-S) and Restaurants (NEMS-R) [University of Pennsylvania – NIH, RWJF, CHBR]
Methods

- Multiple food waste assessments
  - 2 at high school, 2 at middle school, 2 at elementary school
  - Observed plate waste and weighed waste

- Cross-sectional survey with school nutrition personnel
  - Used to understand challenges and inform training
  - Training: new USDA guidelines, hands on food preparation, food tasting evaluations, behavioral economics/food presentation

Data Collection Activities

- School nutrition staff survey & training
- Food waste assessments at high school, middle and elementary schools (1st one)
- Middle & high school student food surveys
Preliminary Data  
School Nutrition Staff Survey  
N=14 (87.5% of the total staff n =16)

<table>
<thead>
<tr>
<th>What would motivate you to increase the use of fresh fruits &amp; veg., beans &amp; whole grain in your school? (select all that apply)</th>
<th>n(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Additional facilities and/or equipment in the school to prepare food</td>
<td>6(66)</td>
</tr>
<tr>
<td>Positive interest &amp; support from parents or community members</td>
<td>6(66)</td>
</tr>
<tr>
<td>Support from district board of education</td>
<td>6(66)</td>
</tr>
<tr>
<td>More products available partially processed (baby carrots, etc.)</td>
<td>6(66)</td>
</tr>
<tr>
<td>Additional school nutrition staff</td>
<td>5(56)</td>
</tr>
<tr>
<td>Partnering with teachers in the school to educate students about healthy foods (to increase student demand)</td>
<td>5(56)</td>
</tr>
<tr>
<td>More products available canned or frozen</td>
<td>4(44)</td>
</tr>
<tr>
<td>More time to prepare foods from scratch</td>
<td>4(44)</td>
</tr>
<tr>
<td>Programs for school nutrition staff to increase culinary skills</td>
<td>3(33)</td>
</tr>
</tbody>
</table>

Preliminary Data  
School Nutrition Staff Training  
(all staff participated)  
**THEMES**

- “Fruits and vegetables might be too expensive for parents to buy for their children. School meals might be the only opportunity for the children to have fruits and vegetables.”
- When brown bread is served, children will not eat it.”
- “Staff should encourage students to try the new foods and explain that they are nutritious foods.”
Preliminary Data
School Nutrition Staff Training

- “It is hard to get children to eat foods at school that they are not being exposed to at home.”
- Parents have misconception that their children are not being fed. The problem is children are not eating what they are served.”
- “Foods that parents send to school with their children are often processed items.”

Preliminary Data
High School Waste Assessment

- Approximately 5.8 pounds of peaches and salad (~20% of the current portions served during school lunch) were thrown away on 1st observation day
- Of the 80 high school students directly observed, 41 (51%) ate less than half of the salad
Preliminary Data
Middle School Surveys

- 26% of children (n=19) reported eating fruit 2 or more times per day in the week prior to the survey.
- 27% of children (n=20) reported eating vegetables 2 or more times per day in the week prior to the survey.
- 78% of children (n=57) reported that candy, cookies, cupcakes and other sweets are sold at least once/week by school staff, and clubs/other groups.

- 70% of children (n=51) reported that Chips, Fritos, Doritos and other fried snacks are sold at least once/week by school staff, and clubs/other groups.
- 25% of children (n=18) reported that fruits and vegetables are sold at least once/week by school staff, and clubs/other groups.
Resources

- **Cooking With Kids**
  
  [http://cookingwithkids.net/about/](http://cookingwithkids.net/about/)
  
  - Program initiated by Lynn Walters in 1995
  - Volunteer effort in 2 public elementary schools in Santa Fe, New Mexico
  - Over 4,000 pre-kinder through 6th grade students in 10 schools participate in the program

---

**5-2-1-0 Challenge**

- 5 Fruits and Vegetables Per Day
- 2 Hours (or less) Screen Time/Day
- 1 Hour of Exercise Per Day
- 0 Sugar/Sweet Beverages
21 Day Challenge
Children Receive a Challenge Medal

New Mexico Healthier Weight Council

- Safe Routes to School (SRTS)
- Webinar, April 24, 2012 1-2pm EDT
  - Discuss fundraising for SRTS program
  - Part of the Safe Routes to School Coaching Action Network Webinar Series
  - Link to webinar: https://www1.gotomeeting.com/register/918436065

Tracker-the "I" CHALLENGE
Move More—get 1 hour of physical activity

<table>
<thead>
<tr>
<th>Day</th>
<th>Mon</th>
<th>Tue</th>
<th>Wed</th>
<th>Thu</th>
<th>Fri</th>
<th>Sat</th>
<th>Sun</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Every day counts! Take the stairs instead of the elevator. Walk or bike anywhere you can instead of riding in a car.
- Get your family to be active: Make activities, such as molina and bike rides, part of your daily routine.
- Turn off the TV: Substitute physical activity for one hour of TV each day.
Farm to Table is a 501c(3) non-profit organization based in Santa Fe, New Mexico that focuses on linking local food and fiber production to local needs by improving communities’ access to nutritious, affordable, locally grown and culturally significant foods.

Farm to School

- feed children in schools for meals and for snacks.
- Educational activities to extend & strengthen the changes happening in the school cafeteria. Grades Pre-K through 12.
The mission of the NB3 Foundation Health and Wellness Program is to create successful nutrition and health education programming with the result of reducing the incidence of type 2 diabetes and childhood obesity.

Long-term commitment to San Felipe Pueblo to reduce rates of childhood obesity by 50% by 2021!

Crafts & advocates for high impact policy solutions to problems impacting poor and underserved.

Part of the national Appleseed Network of 17 centers in the U.S. & Mexico

“Breakfast After The Bell” – provides at least 55,000 breakfasts for low income students in NM elementary schools
References


References

