

Nutrition Friendly Schools and Communities: School-Based Environmental Intervention

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The Los Angeles Unified School District (LAUSD)



- ◆ Second largest school district in the United States.
- ◆ Covers 704 square miles within LA County.
- ◆ Separated into 8 local districts.
- ◆ Over 730,000 students in grades K – 12.
- ◆ Over 70% of the student population is Hispanic.
- ◆ 72.8% of students qualify for free/reduced meals.

LAUSD and UCLA History



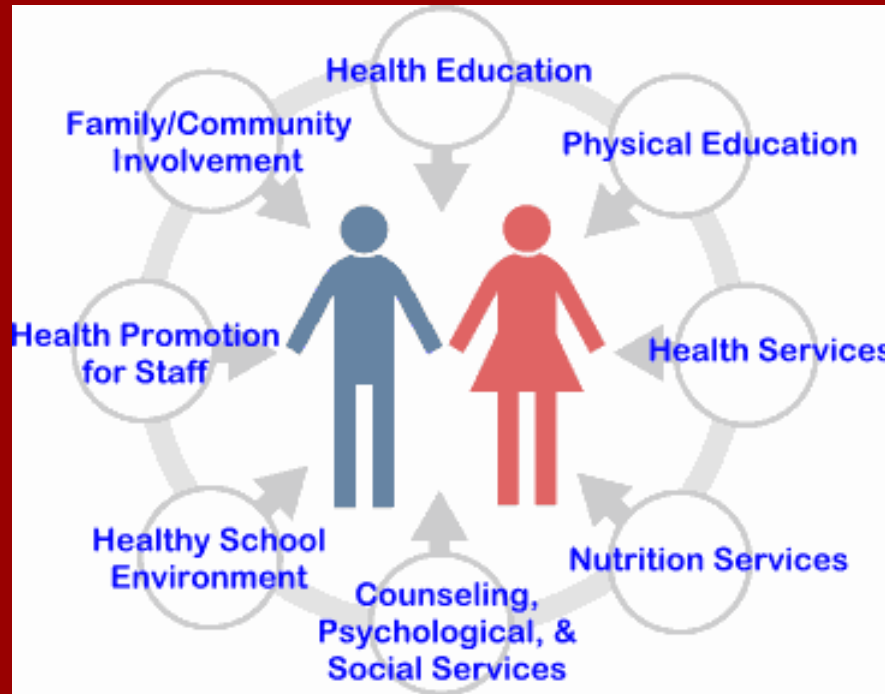
- ◆ 1998 Hunger Study
- ◆ 1999 Salad Bar Study
- ◆ 2001-present: Nutrition Network evaluation projects
- ◆ 2002-present: Nutrition Friendly Schools and Communities (NFSC)
- ◆ 2005: Staff Wellness Project

NFSC Model



- ◆ Developed by NFSC research team in collaboration with school community stakeholders including teachers, cafeteria staff, administrators, parents, and health service staff.
- ◆ Adapted steps and concepts from:
 - ◆ Baby Friendly Hospital Initiative (BFHI)
 - ◆ Coordinated School Health Model (CSHM)
 - ◆ Community Participatory Research (CPR)

Coordinated School Health



Baby Friendly Hospital Initiative (BFHI)



- ◆ United Nations Children's Fund and the World Health Organization collaborative launched in 1991.
- ◆ Aims:
 - To increase breastfeeding rates.
 - To encourage an international standard for maternity lactation services through evidence based Ten Steps to Successful Breastfeeding.

BFHI



- ◆ Process of Certification includes:
 - Self-appraisal.
 - Changes made to address gaps/deficiencies in meeting the criteria.
 - Assessment of hospital from external trained assessors

Community Based Participatory Research (CBPR)



- ◆ Is participatory
- ◆ Cooperative between community and researchers
- ◆ Co-learning process
- ◆ Involves systems development and local capacity building
- ◆ Empowering process
- ◆ Balance between research and action

Principles of CBPR

- ◆ Produce knowledge /action directly useful to people.
- ◆ Empower people at a deeper level by constructing and using their own knowledge.
- ◆ Consciousness raising.
- ◆ Authentic-genuine collaboration.
- ◆ Establish dialogue between popular vs. academic knowledge.
- ◆ May start conventionally with a defined social problem.
- ◆ Problem identification and resources rest in community.
- ◆ External assistance is part of process, but ultimate decision making power rests with community.



Elements of CBPR



- ◆ Empowerment
- ◆ Capacity building
- ◆ Competence
- ◆ Leadership development
- ◆ Sustainability

NFSC Criteria Development



- ◆ Meeting/work groups
- ◆ Identify stakeholders
- ◆ Delphi survey
- ◆ 15 Steps
- ◆ Evidence-based verification review
- ◆ Self-assessment tool development

15 Steps to a Nutrition Friendly School



1. School has written physical activity and nutrition policies.
2. School administration supports efforts to promote healthy eating and physical activity among all school community stakeholders.
3. There is collaboration throughout the school community regarding nutrition and physical education.
4. School has a standardized nutrition education curriculum integrated into other school subjects.
5. School Food Service provides healthy foods adhering to the USDA recommendations.

15 Steps to a Nutrition Friendly School



6. School staff and students have input into school meal planning.
7. School has a physical education curriculum/program that is adhered to by a minimum of 80% of eligible staff.
8. A minimum of 85% of classroom participate in a minimum of 20 minutes of moderate to vigorous daily physical activity.
9. The school has one nurse for every 750 students.
10. School Health Services identifies and refers students with nutrition and physical activity issues.

15 Steps to a Nutrition Friendly School



11. School has a staff wellness program.
12. School staff is committed to serve as role models for healthy behavior.
13. School includes family and community members in nutrition education and physical education.
14. Family and community members actively promote healthy eating and physical activity.
15. School Psychosocial Services supports healthy eating and physical activity.

NFSC Pilot Study



- ◆ Funded by CDC Community Based Participatory Research Initiative
- ◆ **Goal:** actively engage school community to prevent overweight in elementary school children through multi-level participative intervention facilitating coordinated changes in the school environment in:
 - ◆ Nutrition education
 - ◆ Physical education
 - ◆ Health services
 - ◆ Food services
 - ◆ School policies
 - ◆ Staff wellness
 - ◆ Family/community involvement
 - ◆ Psychosocial services

NFSC Process



- ◆ Introduction to staff
- ◆ Recruit NFSC committee members
- ◆ Conduct self – evaluation
- ◆ Develop implementation plan
- ◆ Implement plan
- ◆ Monitor progress through ongoing data collection
- ◆ UCLA providing technical assistance and resources
- ◆ Capacity building—school systems change

NFSC Time Line



- ◆ Monitor progress towards plan (09/03-9/05)
- ◆ Develop certification tool and process (6/04 – 9/05)
- ◆ Data collection (04/03-9/05)
- ◆ Capacity building (04/03-9/05)
- ◆ Sustainability (03/04-9/05)
- ◆ Certification (2005)

NFSC Study Schools



- ◆ East Los Angeles (4 schools)
 - ◆ 3,946 students (range 360-1,500)
 - ◆ 2 year-round, 2 traditional
 - ◆ 87%-100% of students eligible for free/reduced meals
 - ◆ Majority (98%) Latino students
 - ◆ Some Spanish speaking students and parents
- ◆ West Los Angeles (4 schools)
 - ◆ 1,630 students (range 280-580)
 - ◆ All traditional calendar
 - ◆ 64%-91% of students eligible for free/reduced meals
 - ◆ Some students bussed from East Los Angeles
 - ◆ Multiple languages spoken by students and parents

NFSC Study Schools

School	Calendar	# Stude	# Teach	Student Race/Ethnicity	% Free/Red
School 7	Traditional	415	23	2.8% Asian, 64% African American, 30.8% Hispanic, 1.9% White	84.83
School 1	Traditional	581	30	8.95% Asian, 2.41% Filipino, 13.43% African American, 45.61% Hispanic, 29.26% White	60.24
School 2	Traditional	582	32	1.0% Asian, 3.8% African American, 92.8% Hispanic, 1.0% White	91.76
School 5	Traditional	284	14	9.4% Asian, 5.5% Filipino, 3.9% African American, 76.1% Hispanic, 5.1% White	96.1
School 3	Traditional (K-9)	360	18	35.75% African American, 61.17% Hispanic, 1.12% American Indian/Alaskan Native, 1.12% White	100
School 9	Year round (4 track)	1,344	67	99.55% Hispanic	94.7
School 6	Traditional	1,465	62	99.59% Hispanic	82.7
School 8	Year round (Science	926	47	99.87% Hispanic	88.9

NFSC Data Collection

◆ Student

- ◆ 24 hour dietary recall
- ◆ Anthropometrics including height, weight, triceps skinfold
- ◆ Nutrition and physical activity knowledge and attitude via questionnaire adapted from CATCH, Pathways, Hearts-n-Parks
- ◆ Participation in physical activity via questionnaire adapted from CATCH
- ◆ Achievement including test scores, attendance

◆ Adult (staff and parent)

- ◆ Self-reported height and weight
- ◆ Nutrition and physical activity knowledge and attitudes via questionnaire adapted from NIH Diet Health Questionnaire,
- ◆ Dietary and physical activity behaviors via questionnaire adapted from CSFII and the Diet and Health and Knowledge Survey.



NFSC Data Collection



- ◆ School level
 - ◆ School environment measures
 - ◆ Process measures baseline and post – intervention
 - ◆ Self-evaluation of 15 Steps
 - ◆ Achievement including test scores, attendance, nurse records, discipline

Preliminary Results - Students



- ◆ **BMI**
 - ◆ Pre: 29.2% overweight; 18.2% at-risk for overweight = 47.4%
 - ◆ Post: 27.7% overweight; 17.2% at-risk = 44.8%
- ◆ **Physical Activity**
 - ◆ 126 minutes/day of physical activity including activity before, during, and after school
 - ◆ 82.1% had no P.E. on previous day
- ◆ **Sedentary Activity**
 - ◆ 127 minutes/day of sedentary activity including watching TV, movies, playing video games, or using the computer

Preliminary Results -Adults



- ◆ BMI (based on self – reported height and weight)
 - ◆ 29.26% obese and 27.93% overweight = 57.19%, compared to 64.5% nationally, 54.4% California, and 55.5% of Los Angeles County
- ◆ Activity
 - ◆ Participated in physical activity, on average, 18.5 minutes per day

NFSC Committee



- ◆ Meeting frequency determined by committee
- ◆ Conduct self – evaluation including collecting evidence
- ◆ Develop plan to meet NFSC criteria
- ◆ Implement plan
- ◆ Evaluate progress
- ◆ Sustainability

NFSC Committee Makeup



- ◆ Principals
- ◆ Assistant Principals
- ◆ Teachers
- ◆ Teaching assistants
- ◆ P.E. coach
- ◆ Nurse
- ◆ Healthy Start coordinator
- ◆ Students
- ◆ Parents
- ◆ Cafeteria managers
- ◆ Parent coordinator

Role of School Committees



- ◆ Focus on gaps found in self-evaluation
- ◆ Strive towards achieving 15 Steps
- ◆ Find resources
 - ◆ within school community
 - ◆ among 8 schools
 - ◆ from larger community
- ◆ Assigns tasks & follows up
- ◆ Implementation of new activities/policies
- ◆ Role models
- ◆ Identify and secure funding opportunities

NFSC Self-Evaluation



- ◆ Self-evaluation tool modeled after CDC School Health Index and USDA Changing the Scene.
- ◆ Assesses current school environment in relation to 15 Steps.
- ◆ Completed at each school by NFSC committee and UCLA School Liaison approximately every 6 months.
- ◆ For each step, committee decides if step has been met fully, partially, not at all or don't know.
- ◆ For each step, committee develops an action plan to achieve the step.
- ◆ During each self-evaluation, also measure achievement towards action plan goals and revise as necessary.

NFSC Self-Evaluation Tool Sample

Family and Community

Criteria	Yes	Partial	No	Don't Know	If response is "yes" - describe	If response is "no" or "partial" - describe what actions are planned
<p>Step 13:</p> <p>The school includes family and community members (such as business, religious, non-governmental organization leaders) in nutrition education and physical education.</p> <p><i>Family and community members are included on nutrition and physical activity related committees.</i></p> <p><i>The school provides opportunities for nutrition education and physical education for families and community members.</i></p>	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>As of June 17, 2004</p> <ul style="list-style-type: none"> -Spring into Health, American Cancer Society - Collaboration with Huntington Park, Parks and Recreation i.e. field trip to farmer's market, May 2004 - April-May 2004- health course for parents (Hathaway F.R.C.) - School garden, Viva gardens! grant - Daily aerobics class for parents - Annual nutrition fair, June 25, 2004 - NAC symposium, June 16, 2004 	<p>Future plans- 2004-2005 year</p> <ul style="list-style-type: none"> - Vending machine, w/healthy snacks - Monthly field trips to farmer's market - School wide Spring Into Health in April 2005

Number of Steps Achieved By Each School

School	Fall 2003 (n*) %	Spring 2004 (n)%	Fall 2004 (n) %	Spring 2005 (n) %	Change (Spring 05- Fall 03)
1	(6) 40%	(8) 53.3%	(11) 73.3%	(11) 73.3%	33.3%
2	(4) 26.7%	(7) 46.7%	(13) 86.7%	(13) 86.7%	60%
3	(1) 6.7	(3) 20%	(6) 40%	(8) 53.3%	46.6%
5	(4) 26.7%	(6) 40%	(4) 26.7%	(5) 33.3%	6.6%
6	(1) 6.7%	(2) 13.3%	(5) 33.3%	(8) 53.3%	46.6%
7	(2) 13.3%	(6) 40%	(8) 53.3%	(10) 66.7%	53.4%
8	(1) 6.7%	(6) 40%	(6) 40%	(6) 40%	33.3%
9	(0) 0%	(2) 13.3%	(3) 20%	(4) 26.7%	26.7%

Number of Schools Achieved Each Step

Step	Fall 2003 (n*) %	Spring 2004 (n) %	Fall 2004 (n) %	Spring 2005 (n) %	Change
1	(0) 0%	(0) 0%	(4) 50%	(5) 62.5%	62.5%
2	(3) 37.5%	(6) 75%	(7) 87.5%	(7) 87.5%	50%
3	(0) 0%	(0) 0%	(3) 37.5%	(5) 62.5%	62.5%
4	(0) 0%	(0) 0%	(0) 0%	(0) 0%	0%
5	(5) 62.5%	(7) 87.5%	(6) 75%	(6) 75%	12.5%
6	(0) 0%	(0) 0%	(0) 0%	(0) 0%	0%
7	(3) 37.5%	(3) 37.5%	(3) 37.5%	(3) 37.5%	0%
8	(1) 12.5%	(2) 25%	(6) 75%	(6) 75%	62.5%
9	(4) 50%	(5) 62.5%	(5) 62.5%	(6) 75%	25%
10	(0) 0%	(0) 0%	(3) 37.5%	(4) 50%	50%
11	(0) 0%	(2) 25%	(2) 25%	(3) 37.5%	37.5%
12	(1) 12.5%	(4) 50%	(3) 37.5%	(4) 50%	37.5%
13	(1) 12.5%	(6) 75%	(6) 75%	(6) 75%	62.5%
14	(1) 12.5%	(5) 62.5%	(4) 50%	(6) 75%	62.5%
15	(0) 0%	(0) 0%	(4) 50%	(4) 50%	50%

Barriers to Improving School Nutrition and Physical Activity Environment



- ◆ Staff overwhelmed – too many mandates
- ◆ Funding
- ◆ Lack of time
- ◆ Not a priority
- ◆ Lack of collaboration among school community
- ◆ Use of junk food as fundraiser
- ◆ Lack of training in PE
- ◆ Lack of administrative support

Facilitators to Improving School Nutrition and Physical Activity Environment



- ◆ Funding
- ◆ Dedicated and committed school community
- ◆ UCLA Staff – part of community, flexibility, respectful
- ◆ Clustering
- ◆ Resources
- ◆ Building on existing teacher work
- ◆ Administrative support in schools

Why is Intervention Working?



- ◆ Resource sharing
- ◆ Encouragement/Support
- ◆ Momentum
- ◆ Ease of integration
- ◆ Buy-in by school staff and parents
- ◆ Staff becoming more competent in PA & nutrition
- ◆ Acculturation

Relationship Building



- ◆ Listen
- ◆ Open and respectful communication
- ◆ Find common ground
- ◆ Validate competing time demands
- ◆ Team mentality
- ◆ Flexibility
- ◆ Availability
- ◆ Dependability
- ◆ Immediate follow up
- ◆ Organized
- ◆ Clear expectations
- ◆ Drop in visits
- ◆ Informal relationship building

Areas that need Attention



- ◆ Policies
- ◆ Nutrition curriculum
- ◆ Food Service
- ◆ PE/PA (curriculum, teacher)
- ◆ School health services
- ◆ Staff wellness
- ◆ Psychosocial services
- ◆ Funding

Sustainability

- ◆ Identify key stakeholders
- ◆ Incorporate into school committee structure
- ◆ Quarterly contact
- ◆ External evaluation
- ◆ Recognition by District officials



NFSC Next Steps

- ◆ Implement NFSC plan (4/05-9/05)
- ◆ Monitor progress towards plan (4/05-9/05)
- ◆ Develop certification tool and process (4/05 – 9/05)
- ◆ Continuation of data collection (4/05-9/05)
- ◆ Capacity building (4/05-9/05)
- ◆ Sustainability (4/05-9/05)
- ◆ Certification (2005)
- ◆ Develop tool kit for school use (2005)
- ◆ Staff Wellness Study (10/04-9/07)

