



Evidence Based Tools to Improve Impact

California Childhood Obesity Conference
January 24th ♦ Anaheim, California

Jonathan E. Fielding, M.D., M.P.H., M.B.A
Director of Public Health and Health Officer
L.A. County Department of Public Health



Creating and Using the Best Evidence

- No single intervention will reverse current trends towards overweight
- Use of interventions that have demonstrated effectiveness in specific settings can increase likelihood of success over time
- Ignore best evidence at our peril

What Evidence is Needed

- Inter-sectoral: Impact of changes in other sectors on key health variables such as fitness and overweight/ obesity
- Practical: Evidence from feasible interventions in communities like yours
- Systematic: Based on careful review of what is known using standardized techniques

Two Useful Resources

- Health Impact Assessment
 - Done by others
 - Created by you
- Systematic Reviews: U.S. Community Preventive Services Task Force and others



Health Impact Assessment is

... a tool for **systematically** evaluating, synthesizing, and communicating information about potential health impacts





Health Impact Assessment is

"a **multidisciplinary process** within which a **range of evidence** about the health effects of a proposal is considered in a **structured framework**...based on a **broad model of health** which proposes that economic, political, social, psychological, and environmental factors determine **population health**."

HIAs have the potential to identify:

"those **activities** and **policies** likely to have **major impacts on the health of a population** in order to reduce the harmful effects on health and to increase the beneficial effects"

Northern and York Public Health Observatory, 2001



An HIA might ask...

1. What are the potential health effects of a proposal to change sales tax revenue?
2. Do state-funded after-school programs yield significant health benefits?
3. What are the health consequences of the current set of agricultural subsidies?
4. What elements of school site design are most cost-effective in encouraging physical activity?



Addressing health disparities with HIA

1. Highlighting how changes in rules on the distribution of after-school program funds could hurt low income children and families.
2. Showing how placement of a farmers' market determines whether the market improves access to fresh fruit and vegetables for low income families.
3. Contrasting how different changes to school P.E. requirements differ in their potential to increase physical activity among highly sedentary students compared to students overall.
4. Analyzing whether plans for a new park help decrease disparities in access to recreational facilities.



Why use HIA?

- It influences decision makers using a broad understanding of health and a wide range of evidence
- It highlights potentially significant health impacts that are unknown, under-recognized, or unexpected
- It assesses how proposals will affect all members of the community, particularly the most vulnerable
- It facilitates inter-sectoral working and public participation in decision making
- It encourages sustainable development—considers short and long term impacts
- It can place public health on the agenda



Challenges



- Complexity of the built environment and health outcomes.
- Lack of reliable and valid indicators of built environment effects.
- Insufficient data on interventions to improve health status.

Sample HIA

Sacramento Safe Routes to School (Natomas USD)

Current

2 elementary schools
26% of students walk



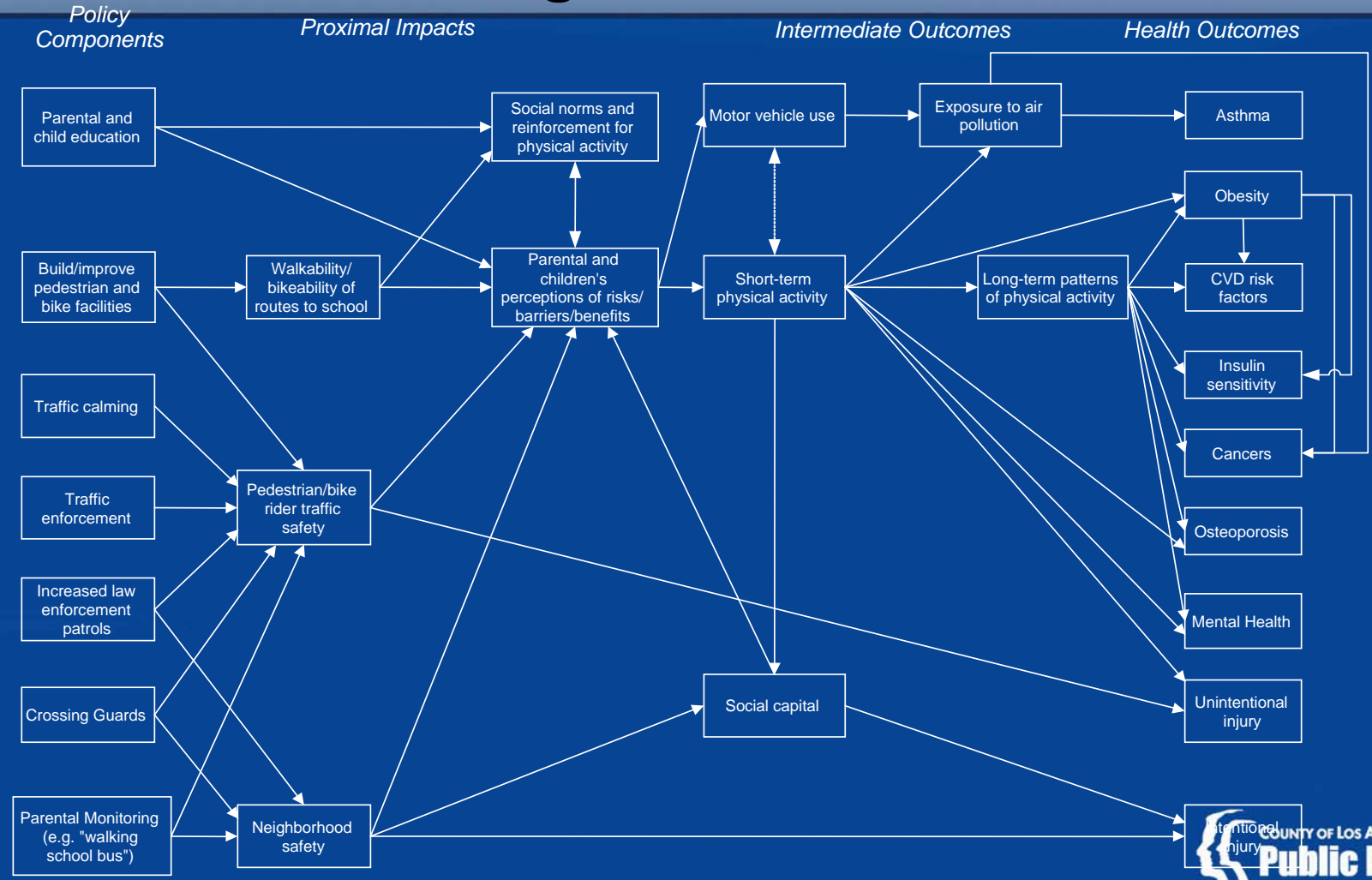
Proposed

5 elementary schools
1 middle school

Program activities:

1. Pedestrian infrastructure
2. Safety education
3. Crossing guards
4. Traffic enforcement

Safe Routes to School Logic Framework



Safe Routes to School

Key inputs for quantitative projections

- Marin County Safe Routes to School program increased walking by 64% (Staunton et al, 2003)
- Average distance walked to school is 0.6 miles
- Assume average walking speed for school children is 1.8 miles/hr
- After 1 year, 1 additional hour of physical activity decreased overweight children's BMI by an average of 0.183 (Berkey et al, 2003)

Safe Routes to School Impact estimation

- Increased daily physical activity by 40 minutes
- Increased percentage of students active for 30 minutes/day from 12.8% to 21.4%
- Decreased of 0.09 in BMI among overweight students

Other health impacts due to program effects on air pollution, traffic, and safety/social capital were assessed qualitatively


Future steps for working with HIA to improve population health

- Developing a repository of HIA practice to lower technical barriers
 - Highlighting best practices
 - Identification of knowledge gaps
 - Multi-layered, interactive documents with embedded learning modules
 - Robust, adaptable analytic modules that can be scaled up or down
- Collaborating with policy-makers to shape and focus HIAs on high priority issues
- Training and technical assistance to build a community of HIA practitioners
- Linking universities, health departments and legislative analysts



Task Force on Community Preventive Services

- What is it? What is the Guide?
- Methodology
- The Task Force reviewed various ways to promote physical activity
 - Informational approaches
 - “point-of-decision” prompts, e.g. to use stairs (recommended)
 - Behavioral and social approaches
 - School based physical education (recommended)
 - Environmental and policy approaches
 - Creating and/or enhancing access to places for physical activity (recommended)
 - Community-scale & street-scale urban design and land use policies and practices (recommended)




Community Guide – Promoting PA: Summary of Findings

- Recommended:
 - Community-wide info campaigns
 - “Point-of-decision” prompts
 - Individually-adapted health behavior change
 - School-based physical education
 - Social support interventions in community settings
 - Increasing access to places for PA with info outreach activities
 - Urban planning approaches (zoning and land use)
- Insufficient Evidence:
 - Classroom-based health education focused on info provision
 - Mass media campaigns
 - Health education with TV/video game turnoff component
 - College-age physical education/health education
 - Family-based social support
 - Transportation policy & infrastructure changes to promote non-motorized transit

Environmental and policy approaches to increase physical activity

- The Task Force recommended: **Creating or improving access to places for physical activity**
- Background on interventions:
 - Involve worksites, coalitions, agencies, communities to change the local environment
 - Examples of changes: creating walking trails, building exercise facilities, providing access to existing facilities nearby
- Findings:
 - In all 10 studies, improving access to places for physical activity was effective in getting people to exercise more
 - Median estimates = 25% increase in percent of people exercising at least 3 times a week
 - These interventions were effective among both men and women and in various settings, including industrial plants, universities, federal agencies, and low-income communities.



Environmental and policy approaches to increase physical activity

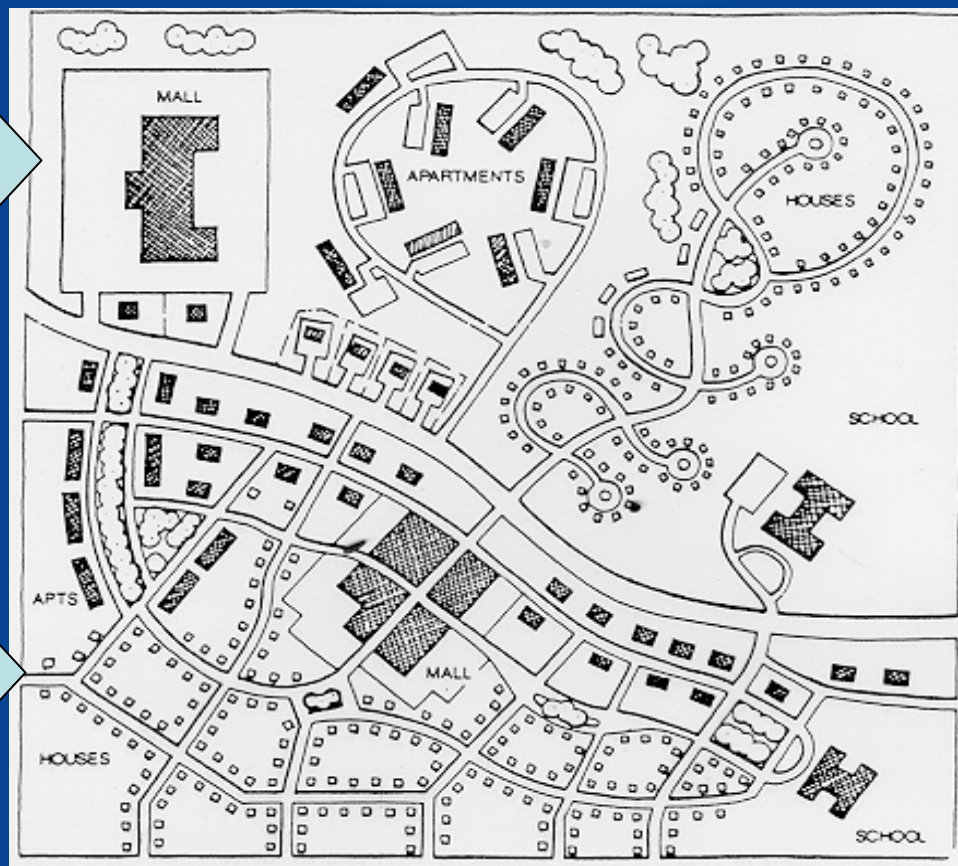
- The Task Force recommended: **Community-scale urban design and land use policies and practices to promote physical activity**
- Background on interventions:
 - Defined as urban design and land use policies and practices that support physical activity in geographic areas, generally several square kilometers in area or more.
 - Involve urban planners, architects, engineers, developers, and public health professionals
 - Design elements include the proximity of residential areas to stores, jobs, schools and recreation areas; the continuity and connectivity of sidewalks and streets; and the aesthetic quality and safety aspects of the physical environment
- Findings:
 - Studies generally compared behavior of residents in auto-oriented (suburban) communities with those in urban communities
 - In 12 studies, overall median improvement in some aspect of physical activity (e.g., # of walkers) was 161%

Community-Scale Urban Design

Suburban
development with
many cul-de-sacs



Well-connected
urban development
with mixed land
uses



Environmental and policy approaches to increase physical activity

- The Task Force recommended: **Street-scale urban design and land use policies and practices to promote physical activity**
- Background on interventions:
 - Defined as street-scale urban design and land use policies that support physical activity in small geographic areas, generally limited to a few blocks
 - Involve urban planners, architects, engineers, developers, and public health professionals
 - Design components include improved street lighting, infrastructure projects to increase safety of street crossing, use of traffic calming approaches, & enhancing the street landscape
- Findings:
 - Studies assessed effectiveness in providing a more inviting and safer outdoor environment for physical activity
 - In 6 studies, the overall median improvement in some aspect of physical activity (e.g., # of walkers) was 35%



Evidence Based Tools to Improve Impact

- We need to analyze, promote, and share best practices
- Evidence from practical programs should be systematically reviewed
 - Look for evidence of inter-sectoral impact!
- 2 good resources:
 - HIAs (<http://www.ph.ucla.edu/hs/health-impact/index.htm>)
 - Task Force on Community Preventive Services (www.thecommunityguide.org)