

Evidence Based Practice

Maternal and Child Health and Obesity

Evidence Based Prevention in Public Health

“ . . . If we did not respect the evidence,
we would have very little leverage in
our quest for the truth.”

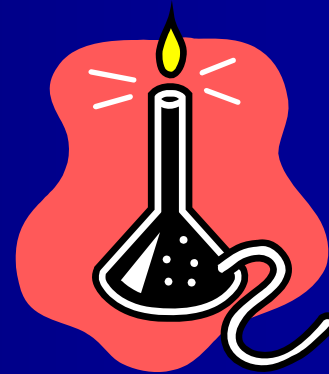
Carl Sagan

What is Evidence Based Public Health (EBPH)?

- Developing, implementing, and evaluating public health **programs** or public health **policies** (in public health terms an "intervention") that have
 - 1) **data demonstrating their effectiveness;**
 - 2) a grounding in a health behavior theory or socio-ecological model of health and
 - 3) consideration of the community and professional experience

Criteria to Assess PH Programs

- Theory Articulated
- Intervention Fidelity
- Process Evaluation
- Research Design
- Attrition
- Outcome Measures
- Replication
- Cultural appropriateness



Some General Considerations in Evaluating Evidence

Less Certain Criteria	More Certain Criteria
One of a few observations	Many observations
Anecdote or case reports	Scientific study
Not published or peer-reviewed	Published in peer-reviewed journal
Not previously reported	Reproduces findings from other studies

Identifying and Finding Evidence

- Web searching
- Use of Systematic Reviews
- Scientific Literature Review
- Obtain the best available evidence



Resources

- Guide to community prevention services:
<http://www.thecommunityguide.org/>
- <http://www3.interscience.wiley.com/cgi-bin/mrwhome/106568753/HOME>
- Resource guide for nutrition and physical activity interventions to prevent obesity and other chronic diseases
http://www.cdc.gov/nccdphp/dnpa/pdf/guidance_document_3_2003.pdf

Community Guide: Population-based Interventions Promoting Healthy Weight in Children

Intervention	Recommendation	Status
School-based Interventions		
School-based programs for children & adolescents	Insufficient evidence to determine effectiveness	Update in progress
Worksite Interventions		
Multicomponent interventions aimed at diet, physical activity, and cognitive change	Recommended	Complete
Single component interventions aimed at diet, physical activity, or cognitive change alone	Insufficient evidence to determine effectiveness	Update in progress
Healthcare System Interventions		
Organizational-level interventions aimed at policy & decision support structures	Pending	Review in progress
Provider-level interventions aimed at professional practice strategies and guidelines	Pending	Review in progress
Patient group and family-level interventions aimed at diet, physical activity, cognitive change, and social support	Pending	Review in progress
Community-wide Interventions		
Broad population-based, multi-strategy interventions using mass media, public policy, and environmental change to promote healthy diet and physical activity in communities	Pending	Review in progress
Small scale, targeted community interventions aimed at diet, physical activity, and cognitive change among population subgroups	Pending	Review in progress

Cochrane Review/Preventing Childhood Obesity

Background

Obesity prevention is an international public health priority. The prevalence of obesity and overweight is increasing in child populations throughout the world, impacting on short and long-term health. Obesity prevention strategies for children can change behaviour but efficacy in terms of preventing obesity remains poorly understood.

Objectives

To assess the effectiveness of interventions designed to prevent obesity in childhood through diet, physical activity and/or lifestyle and social support.

Main results

Twenty-two studies were included; ten long-term (at least 12 months) and twelve short-term (12 weeks to 12 months). Nineteen were school/preschool-based interventions, one was a community-based intervention targeting low-income families, and two were family-based interventions targeting non-obese children of obese or overweight parents.

Authors' conclusions

The majority of studies were short-term. Studies that focused on combining dietary and physical activity approaches did not significantly improve BMI, but some studies that focused on dietary or physical activity approaches showed a small but positive impact on BMI status. Nearly all studies included resulted in some improvement in diet or physical activity. Appropriateness of development, design, duration and intensity of interventions to prevent obesity in childhood needs to be reconsidered alongside comprehensive reporting of the intervention scope and process.

Limitations to EBPH

- Cultural and geographical limitations
- Bias in deciding what gets studied
- New emerging health issues
- Community based participatory approaches.



Tailoring your Program

- Describe the issue of obesity as it relates to maternal and child health in your community. What additional data do you need to define the problem?
- What are the reasons the problem exists? What are the influences on the individual, interpersonal, community, and environmental (public policy) levels?



Tailoring your Program

- What process will you use to design a program?
- What resources will aid you in the process of designing the program?
- How will you incorporate the principle of EBPH in your program?



CDC Reach 2010 Community Change Model

Changes in Health



Changes in Risk Factors & Protective Factors



→ Environmental Shift (ie Policy)



→ Changes in Change Agents



→ Develop Needed Community Capacity



→ Community Awareness of Issue

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Participatory Evaluation

- A partnership approach to evaluation in which stakeholders actively engage in developing the evaluation in all stages of its implementation.
 - Identifying relevant questions
 - Planning the evaluation design
 - Selecting appropriate measures and data collection procedures
 - Gathering and analyzing data
 - Reaching consensus about findings, conclusions and recommendations
 - Using results for action.

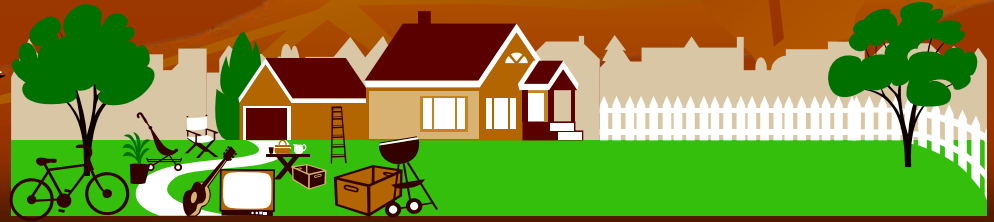
Why do Participatory Evaluation?

- Locally relevant evaluation questions
- Improve program performance
- Empower participants
- Build capacity
- Develop leaders and build teams
- Sustain learning, growth and programs



Characteristics of participatory evaluation

- Communities want evaluation to be useful
- Evaluation and program development are integrated
- Communities need results immediately
- Evaluation is flexible to program changes over time
- Results more likely to be used
- Resources are limited

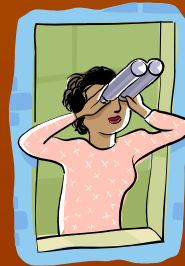


Steps to Participatory Evaluation

- Decide if participatory approach is appropriate
- Identify who should and wants to be involved
- Collaborate on creating on evaluation plan
- Gather information, analyze it and build consensus on results collectively
- Agree on findings and how they will be used

Techniques Used in Participatory Evaluation

- Key informant interviews
- Focus groups
- Pre/post questionnaires
- Testimonies
- Photographs
- Observation



Issues in Participatory Evaluation

- For the evaluation:
 - The project timeline may not allow for a truly participatory process.
 - Organizations may not be accustomed to dealing with questions of evaluation.
 - Program staff is juggling the needs of clients with labor intensive demands of evaluation.
 - There are limited resources to collect data.



Steps To A Healthier Arizona Evaluation Framework

The evaluation of Arizona STEPS is influenced by three conceptual models:

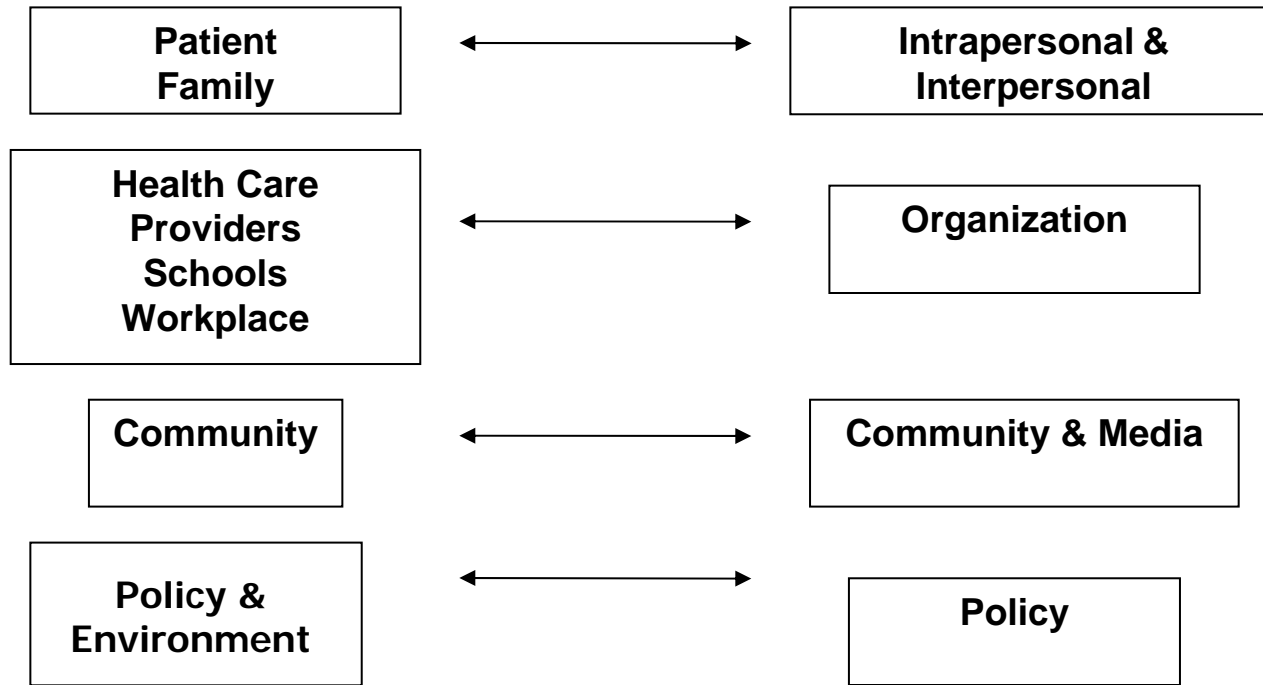
- 1) the CDC REACH 2010 Community Change Model;
- 2) the Border Health Strategic Initiative Conceptual Framework ; and
- 3) the Social Ecological Model (McLeroy, 1988), as set forth by the National STEPS evaluation.



Integration of Arizona and Steps National Evaluation Frameworks

Arizona STEPS Intervention Level

Typology of Environmental Influences on Health Behavior





Obesity

Domain = Patient (organization)

Objective	Short term outcome	Evaluation measure	Data Source
<p>Decrease the risk factors for obesity through clinical care, family interventions, nutrition education, and physical activity opportunities.</p>	<ol style="list-style-type: none"> 1) Program participation 2) Increased knowledge, attitudes and behaviors among participants 3) Increased family support for nutrition and physical activity 	<ol style="list-style-type: none"> 1) Exposure to education & support 2) Change in participant KAB 	<ol style="list-style-type: none"> 1) Attendance 2) Participant pre/post questionnaire



Obesity

Domain = Patient (intrapersonal and interpersonal)

Objective		Evaluation measure	Data Source
<p>Decrease the risk factors for obesity through clinical care, family interventions, nutrition education, and physical activity opportunities.</p>	<ul style="list-style-type: none"> 1) Improved nutritional intake 2) increased physical activity among youth/adults 3) improved clinical measures 	<ul style="list-style-type: none"> 1) Change in participant nutrition 2) Change in physical activity 3) Lower weight, B/P, blood lipids 	<ul style="list-style-type: none"> 1, 2, 3) Participant follow up questionnaire 2) Clinical measure



Steps to a
Healthier AZ

Obesity

Domain = School (organization)

Objective	Short term outcome	Evaluation measure	Data Source
<p>Improve school nutrition and physical activity through increased capacity of school personnel, student programs, and the development of related policies.</p>	<ul style="list-style-type: none"> 1) ↑ schools implementing the SHI 2) ↑ capacity of school personnel 3) ↑ schools offering Nu/ PA opportunities 4) ↑ schools using a coordinated curriculum 	<ul style="list-style-type: none"> 1) ↑ schools with action plans 2) # staff trained; staff KAB 3) ↑ schools offering opportunities 4) ↑ schools using curriculum 	<ul style="list-style-type: none"> 1) Action plans 2) Training attendance; staff prepost 3) Opportunities documented; student FG 4) Program documentation; school personnel interview



Obesity

Domain = School (organization)

Objective	Intermediate outcome	Evaluation measure	Data Source
<p>Improve school nutrition and physical activity through increased capacity of school personnel, student programs, and the development of related policies.</p>	<ul style="list-style-type: none"> 1) ↑ implementation of school policies supporting Nu/PA 2) ↑ participation in health education 3) ↑ participation in PA 4) Improved Nu & ↑ PA 	<ul style="list-style-type: none"> 1) Policy implemented 2) # students participating 3) Students participating 4) Self-reported Nu/PA 	<ul style="list-style-type: none"> 1) Policy documented; School personnel interview 2) Attendance documented 3) Attendance documented 4) YRBSS



Steps to a Healthier AZ

Long Term Outcomes

Goals	Trends Across Communities		
	Prevalence	Morbidity	Mortality
Reduce the prevalence of obesity	<p>Obesity Prevalence Source: BRFSS; YRBS</p> <p>Physical Activity Trends Source: BRFSS; YRBS</p> <p>Fruit and Vegetable Consumption Trends Source: BRFSS; YRBS</p>	<p>Rate of hospitalization and complications Source: Hospital Discharge and emergency room data</p> <p>Monitor of standards of care from Community Health Centers, BRFSS, IHS, VA</p>	<p>Mortality rate Source: Death certificate information</p>