Review of Literature

for

The Examination of Communication Factors Affecting Policymakers

A Report to:
California Project LEAN of the
California Department of Health Services
and the Public Health Institute

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INTRODUCTION

The main objectives of this literature review are to identify: 1) the role and importance of policy within schools; 2) the role of schools and coordinated/comprehensive school health programs regarding policy; and 3) successful prevention program models that use policy strategies to impact population-based behavior change, especially in the area of nutrition and physical activity. This literature review will provide a framework for understanding the role of the school board member in policy making.

POLICY: ITS ROLE AND IMPORTANCE

In 1988, the Institute of Medicine (Institute of Medicine, 1988) released an influential report that has made an impact within public health and the agencies working within and with pubic health. This report, *The Future of Public Health*, identified three core functions of public health agencies at all levels: 1) assessment; 2) policy development; and 3) assurance. The committee recommended "the development of comprehensive public health *policies* by promoting use of scientific knowledge base in decision-making about public health and by leading in developing pubic health *policy*" (Institute of Medicine, 1988, pg. 8). This report was the beginning of a new era in which policy and policy development became key in the development of programs affecting the health and well-being of Americans. Policy and environmental interventions account for much of the success of the first public health revolution (Schmid, Pratt, & Howze, 1995).

Policies can be defined as "those laws, regulations, formal and informal rules and understandings that are adopted on a collective basis to guide individual and collective behavior" (Wallack, 1990). The California School Boards Association [CSBA] *Maximizing School Board Leadership: Policy* (1996) defines policy as a" written guide for action adopted by the board to

address a specific issue" (p. 3). "Policies describe *what* the board wants done and *why* the board wants it done" (CSBA, 1996, p. 3).). Policies are considered a *guide to action* and it is assumed that the school board has a choice in the matter; therefore, "matters that are already set through laws are usually relegated to administrative regulations for implementation" (CSBA, 1996, p. 3). School boards can and do adopt policies to develop mechanisms for implementing and tracking the laws set forth by the state and other government agencies.

Policy plays an integral role in coordinated (comprehensive) school health programs (CSHP) (see section on Policy and the Role of school) (Allensworth & Kolbe, 1987). Using this model Neill and Allensworth (1994) developed strategies to promote 5-A-Day messages, in which policy was essential in influencing youth's eating behaviors. Two specific policy strategies within the school nutrition component included implementing policies to support USDA recommendations and limit consumption of competing foods in vending machines and as fundraisers.

Policy has become an integral component of nutrition, physical activity and other school-related recommendations made by the Centers for Disease Control and Prevention (CDC), National Association of School Boards of Education (NASBE) and National School Board Association (NSBA). The NASBE recently released *The Impact of Adolescent Pregnancy and Parenthood on Education Achievement: A Blueprint for Education Policymakers' Involvement in Prevention Efforts* (Ehrlich & Vega-Matos, 2000), which provides implications for state policymakers, regarding pregnancy prevention. Although this blueprint specifically speaks to pregnancy prevention, the overall actions recommended (Appendix A) are broad and can be of assistance in guiding policymakers at the local level (i.e. school board members, superintendents) concerned with healthy eating within the school environment.

Prior to this report, Greene (1998) reported on what board members perceived their roles should be in reducing adolescent pregnancy. Among the key roles were: 1) providing leadership for proactive policymaking; 2) setting the vision for the full development of young people; 3) monitoring needs and adopting or revising policy based on those needs assessments; 4) directing the superintendent to address the issue through policy implementation; 5) facilitating the involvement of others through community outreach; and 6) advocating on behalf of the well being of students through programs and resources that will enhance student achievement and their healthy development. Despite the fact that this report was focused on preventing adolescent pregnancy, it appears clear that school board members view their roles in a broader context than just a single health issue.

Another report from the NASBE, *The Future is Now: Addressing Issues in Schools of the 21st Century*, states "schools have an important role to play in addressing the needs of students by helping them succeed academically and by supporting the growth that will enable them to lead successful, productive adult lives" (NASBE, 1999, pg. 4). They also state that schools and state boards need to *reframe* how they view the role of public education and take into consideration the changing social context in which we live. The four primary recommendations from this report guide state boards of education; however, these state recommendations and policies are critical for the decisions made by the local policymaker as well. The four recommendations are:

1. State boards of education should set standards for creating positive school environments that foster academic achievement and support the development of children and youth.
2. State boards of education should take the leadership role in creating a shared vision and sense of responsibility with others of helping children and youth to succeed academically in school and to become productive members of society.

3. State boards of education should work collaboratively with other policymakers in the development and implementation of early childhood and pre-kindergarten programs.
4. State board of education should work with school and others to combine and to coordinate resources across agencies and public/private sectors in support of children's success.

Recognizing the role of the principal in policymaking and school governance, NASBE published *Principals of Change: What Education Leaders Need to Guide Schools to Excellence* (1999). This report emphasizes that policymakers must recognize school leaders as gatekeepers of change. Not only are principals gatekeepers of change, but superintendents and school board members as well.

POLICY AND THE ROLE OF SCHOOLS

Bogden & Vega-Matos (2000) posit that schools can play a major role in influencing students' health-related behaviors and communicating the healthy lifestyle message through coordinated school programs and policies. They suggest that a complete school health policy will: 1) promote health in multiple ways; 2) emphasize the value of coordinating all components of the school that deal with health issues; and 3) address the need of staff and students.

Such a program has been designed by the Centers for Disease Control and Prevention (CDC) and used as a framework for many states and school districts. The comprehensive school health program (CSHP) refers to an integrated approach to school health comprised of eight components (Figure 1). They include health education, nutrition education, health services, nutrition services, health promotion for staff, counseling and psychological services, healthy school environment, and community/parent involvement (Centers for Disease Control and Prevention, 1996).

There have been several recommendations made for ensuring a quality nutrition and physical education program within a comprehensive school health program (Centers for Disease

Control and Prevention (CDC), 1996). These recommendations address the following: school policy on nutrition; a sequential, coordinated curriculum, appropriate and fun for students; integration of school food service and nutrition education; staff training; family and community involvement; and program evaluation (CDC, 1996).

Policy: Adopt a coordinated school nutrition policy that promotes healthy eating through classroom lessons and a supportive school environment.

Curriculum for nutrition education: Implement nutrition education from preschool through secondary school as part of a sequential, comprehensive school health education curriculum designed to help students adopt healthy eating behaviors.

Instruction for students: Provide nutrition education through developmentally appropriate, culturally relevant, fun, participatory activities that involve social learning strategies.

Integration of school food service and nutrition education: Coordinate school food service with nutrition education and with other components of the comprehensive school health program to reinforce messages of healthy eating.

Training for school staff: Provide staff involved with nutrition education with adequate preservice and ongoing in-service training that focuses on teaching strategies for behavioral change.

Family and community involvement: Involve family members and the community in supporting and reinforcing nutrition education.

Program evaluation: Regularly evaluate the effectiveness of the school health program in promoting healthy eating and change the program as appropriate to increase its effectiveness.

A similar report also documents recommendations for school and community

programs to promote lifelong physical activity among young people. These recommendations include (CDC, 1997):

Policy: Establish policies that promote enjoyable, lifelong physical activity among young people.

Environment: Provide physical and social environments that encourage and enable safe and enjoyable physical activity.

Physical education: Implement physical education curricula and instruction that emphasize enjoyable participation in physical activity and that help students develop the knowledge, attitudes, motor skills, behavioral skills, and confidence needed to adopt and maintain physically active lifestyles.

Health education: Implement health education curricula and instruction that help students develop the knowledge, attitudes, behavioral skills, and confidence needed to adopt and maintain physically active lifestyles.

Extracurricular activities: Provide extracurricular physical activity programs that meet the needs and interests of all students.

Parental involvement: Include parents and guardians in physical activity instruction and in extracurricular and community physical activity programs and encourage them to support their children's participation in enjoyable physical activities.

Personnel training: Provide training for education, coaching, recreation, health care, and other school and community personnel that imparts the knowledge and skills needed to effectively promote enjoyable, lifelong physical activity among young people.

Health Services: Assess physical activity patterns among young people, counsel them about physical activity, refer them to appropriate programs, and advocate for physical activity instruction and programs for young people.

Community programs: Provide a range of developmentally appropriate community sports and recreation programs that are attractive to all young people.

Evaluation: Regularly evaluate school and community physical activity instruction, programs, and facilities.

Why is Policy Important?

As we enter the 21st century it is appropriate to reflect on the past and begin a new era. The last century has been referred to as the "E" century; E for easy. Easy because the leading causes of death (pneumonia, tuberculosis diarrhea and enteritis) were infectious diseases, which we have been able to control with antibiotics, better sanitation, and vaccinations (Table 1). Today, we are in the "B" century; B for behavior. The leading causes of death today are heart disease, cancer and stroke; all which generally result from a mix of behaviors, environmental factors, policies, and the unavailability of quality health care services (Table 1). In the 21st century we are challenged by illnesses that are chronic not infectious, yet motor vehicle crashes are the leading cause of death for people aged 1 to 44 years of age.

Recently, Healthy People 2010 was released and with this report they identified the ten leading health indicators (Table 1). However, when actual causes of death are considered, behaviors become more apparent than illnesses. In reviewing the document and the leading indicators of health, it becomes apparent that we may want to rethink current programs and policies in place regarding health, in particular nutrition and physical activity.

Based on the epidemiological threats to health as identified by the CDC, primary areas of emphasis should encompass the behavioral, social and physical environments, policies and interventions, and access to quality health care (USDHHS, 2000) related key behaviors among adolescents and youth (Figure 2).

Individual Behavior. Behaviors are individual responses to internal stimuli and external conditions. Biology refers to one's genetic makeup, family history, and the physical and mental health problems acquired during life. Behaviors can affect one's biology, and biology can affect one's behaviors. For instance, if you become obese from overeating and not exercising (behavior), this can lead to changes in your pancreas that could lead to diabetes (biology). Similarly, if you have a family history of cancer (biology) this may motivate you to avoid tobacco, eat healthy, and be physically active (behaviors).

Social and Physical Environments. Social and physical environments include all factors that affect an individual's life (positively or negatively), many of which the individual may not be able to control. Social environmental includes interactions with family, friends, coworkers, classmates, and others. It also includes social institutions such as law enforcement, schools, and places of worship. Physical environment would include such tangible elements as water and air, and less tangible elements such as radiation and ozone.

Policies and Interventions. Policies and interventions can be extremely influential on the health of individuals, and in turn their health behaviors. During the 20th century public health policies and population-based interventions have made a major impact on health status (CDC, 1999). Examples include fluoridation of water, mandating child restraints and seat belts in cars, as well as vaccinations for both young and old.

Access to Health Care. Access to quality and affordable health care is essential to one's health status. Health care in its broadest sense not only includes health services but also health information. With the advent of the Internet and media playing a major role in our daily lives, being a savvy health consumer is critical to one's overall health.

Policy is a major determinant of health behavior and of overall health. For many years, the health of the community has been protected by regulatory policy, procedures, and laws (McLeroy, Bibeau, Steckler, & Glanz, 1988). The use of regulatory policy, in particular, has had a dramatic effect on the health of the population. For example, most of the decline in mortality that occurred in the United States between 1900 and 1973, occurred as a result of improvements in water supply, flouridation, sanitation, housing, and food quality, including laws governing the pasteurization of milk (McLeroy et al., 1988). The success demonstrated by these policies has lead to the development of more policies that address the restriction of behaviors, such as restriction on alcoholic sales and policies that allocate programmatic resources, such as the establishment of health promotion centers in selected universities (McLeroy et al., 1988).

According to Milio (1981) policy components should make "the creation and maintenance of healthful environments and personal habits the easiest, the cheapest, and most numerous choices." However, the implementation of policy with regards to health issues and behavior change is not an easy task. As a result, there are several models aimed at utilizing policy strategies to impact population-based behavioral change (see Select Models and Theories that Use Policy section).

<u>California's Coordinated School Health Program</u>

In 1998, the California Center for Health Improvement conducted a telephone survey of registered voters in California regarding the role of schools in providing health education and

health care service. Approximately 9 in 10 voters believe health education instruction was very or somewhat important. Based on the survey results, Californians believe that schools play a key role in helping children grow up well.

To address the health concerns of the multicultural and multilinguistic children and youth of California in a coordinated manner, the California Department of Education and the California Department of Health Services embarked on a process to build infrastructure support for coordinated school health through a grant provided by the CDC (California Department of Education, 2000). More than 70 diverse stakeholders in school health of California worked together as members of the Coordinated School Health Work Group to determine how best to build an interagency system of support for the state's children and families. The goal is to enable California's children and adolescents to become healthy, successful students at school and contributing members in their communities.

The result was the development of the "*Building Infrastructure for Coordinated School Health: California's Blueprint*" to provide recommendations and action steps that can be initiated by the California Department of Education, the Department of Health Services, and other state departments; county offices of education; local health departments; school districts and schools; and community and business partners. The blueprint delineates the foundation upon which children and adolescents in California can develop their capabilities for leading rewarding and productive lives. The blueprint also describes multilevel action steps that can be implemented by communities, organizations, and agencies at the local and state levels. The six main goals to be achieved are as follows:

Goal 1: Coordinated school health policies and programs will support and contribute to the positive development of children and youth.

Goal 2: Policies at all levels will fully support coordinated school health for California's diverse populations.

Goal 3: Funds and resources will be allocated to support coordinated school health for California's diverse populations.

Goal 4: Closer collaboration and better coordination will be established within and between the California Department of Education and the California Department of Health Services, other state and local agencies, and business and community partners.

Goal 5: Personnel capacity in school health at the state and local levels will increase and will reflect California's diverse populations.

Goal 6: Use of state-of the-art, research-based strategies to implement coordinated school health will increase.

The state of California is also fortunate to be one of nine states awarded a grant to explore the expansion of free school meals by the U.S. Department of Agriculture. Such an award allows California to provide free meals to more students while easing some administrative burden. The funds, in the amount of $400,000, will be used to identify school districts that might benefit from the use of so-called Provision 2 and Provision 3 in the school meals law. These provisions allow schools to serve free school breakfast (Appendix A) and school lunch (Appendix B) to all children while reducing their requirements to count meals and document the eligibility of low-income children for free or reduced price meals. The local school district makes up the funding difference between the current level of federal meals reimbursement and the cost of providing free meals to all children (USDA, 2000a).

In the past decade, several important changes have been made with regards to changing school lunch standards so that the reimbursable school lunch now meets federal nutrition standards. In particular, a 1993 U.S. Department of Agriculture (USDA) study showed that the meals served in the Nation's school generally met school nutrition programs' historic Recommended Dietary Allowances (RDA) requirements for calories and key nutrients. However, the meals did not meet additional, more current nutrition standards, as reflected in the Dietary Guidelines. Special concern was focused on the fat and saturated fat content of school meals. Subsequently the school meal requirements were changed to include more current nutrition recommendations. Also in 1997, another USDA study found that meals served in the Child and Adult Care Food Program (CACFP) also needed improvement to be consistent with recommendations. The meal standards themselves did not need to be revised but additional technical support, similar to that provided to schools, needed to be made available to CACFP (USDA, 2000b).

It is vital that schools demonstrate a vested interest in what kids eat not only with regards to academic achievement, but also so children can be healthy, productive citizens. A good nutritional diet helps children develop and prevents childhood and adolescent health problems. It lowers the risk of future chronic diseases such as heart disease, stroke, diabetes, and cancer and reduces potential health care costs. Good nutrition also influences mental performance (USDA, 2000c).

Yet, even when all nutrition requirements are satisfied, children and adolescents still face barriers to acquiring healthy foods in school. Often times, the overall cafeteria environment is not conducive to healthy eating. For example, in many school systems lunch is served as early as 10:00 am to as late as 1:30 p.m., no longer at midday for all students. In addition, children are

forced to eat in silence and cafeteria lines are rushed leaving kids with little or no time to make healthy choices (Watkins, 2000).

School Nutrition and Physical Activity Policies

A sound nutrition policy should emphasize the primary goal of nutrition education is to influence student's actual eating behaviors and not just to teach facts about food (Bogden & Vega-Matos, 2000). However, adopting a sound policy is just the beginning. With regards to physical activity in particular, a comprehensive policy is more likely to be smoothly implemented and consistently enforced if it receives strong administrative support, not just by physical education teachers. Physical activity policies should also receive an orientation that describes the policy and the rational behind it. These actions increase the importance with which staff view physical activity issues and encourage them to promote a physically active lifestyle in their interactions with students.

Environmental and policy interventions approaches to cardiovascular disease prevention through nutrition (Glantz et al., 1995) and physical activity (King et al., 1995) have been thoroughly reviewed. Both articles recognize the role of schools with regards to nutrition and physical activity policies, providing specific examples for each. The San Diego Family Heart Health Project was provided as an example of a public health effort to increase physical activity through the school setting by largely influencing school curriculum to include skills that are transferable to adulthood. Glantz et al states, "State health agencies should work with statewide educational infrastructures to establish and implement policies to assure provision of healthy food choices and a school environment where such chooses are the norm" (1995, p. 521).

Craypo and Samuels (1998) suggest that policy strategies to address nutrition problems should focus on the availability of low cost healthy foods and promoting nutrition education and

positive food messages. With regards to physical activity, these authors suggest that funding be allocated to create safe outdoor areas for physical activity. In addition, daily physical education should be provided in schools. Furthermore, there should be an improvement of park and recreational facilities and the creation of community teen centers. Finally, physical education policies should create free after school physical activity programs, provide transportation to and from school and home, and encourage schools and other organizations to make their facilities available after hours for physical education programs.

There have been many school nutrition programs developed, implemented and evaluated over the past few decades. However, the Child and Adolescent Trail for Cardiovascular Health (CATCH) was the largest multi-center school-based health promotion program ever funded. Eat Smart School Nutrition Program, one component of CATCH, was tested for effectiveness in reducing fat, saturated fat, and sodium in school meals (Nicklas et al, 1994). This program focused primarily on food service providing healthier school meals, one critical component for schools to consider.

School food service staff play a critical role in promoting healthy eating through the foods they provide daily and their interactions with students (Pateman et al., 1995). As part of the School Health Policies and Programs Study (SHHPS) school food services were assessed. This study revealed the importance of collaboration between school food service programs/staff and other community/school programs. Data also suggested that school food service programs were expected to bring in more money than what was necessary to run the program as well as schools were beginning to establish contracts with fast food vendors, including restaurants and vending machines. Today, we see these contracts flourishing among schools and becoming a greater concern for schools as money continues to tighten within school districts (Nestle, 2000).

McGraw et al. (2000) suggest that assessment of policy adoption in school settings is still underdeveloped. They reviewed approaches for measuring the implementation of school-based programs and policies to promote physical activity and healthful eating among youth. There are numerous means of measuring program implementation and adoption, however, measures of policy adoption can include documentation of the nature of written policies and key decisions made at meetings (e.g., school board meetings) or other events leading to the policy decision (e.g., parental input, community involvement).

SELECT MODELS AND THEORIES THAT USE POLICY

Bartholomew, Parcel, Kok, and Gottlieb (2001) state that decision-making models include assessment of the likelihood of various policy outcomes and their values. In a rational or economic decision-making model, the policy maker selects the most efficient alternative to maximize the most valuable output. In most cases, however, there is not sufficient information to make these decisions, and there is only one set of goals or values among policy stakeholders. In the bounded rationality model, rationality is limited by the task environment and personal motivation; this leads the policy maker to accept a feasible or "good enough" solution. In the pluralistic model, goals are inconsistent because of pluralistic interest groups, and incrementalism through compromise is the approach to a solution. Decision analysis examines the outcomes of various actions, their values, and the probability that the outcomes will occur, and this information is used to evaluate policy options.

Spectrum of Prevention

Spectrum of prevention describes six levels at which prevention activities can take place (Cohen & Swift, 1999). This model emphasizes that when working on an issue (i.e. nutrition,

physical activity) that all six levels should be addressed, recognizing that a project may focus on one or two levels of the spectrum. The levels include: 1) strengthening individual knowledge and skills; 2) promoting community education; 3) educating providers; 4) fostering coalitions and networks; 5) changing organizational practices; and 6) influencing policy and legislation. This model was developed with injury prevention as its primary focus; however, it can be applied to other health behaviors.

Using school nutrition policy as an example, students need to be taught healthy eating skills (individual), parents within the community need to understand the importance of good nutrition and the link between nutrition and academic achievement (community education), food service providers need to receive education in nutrition policy development (educating providers), school nutrition and healthy eating needs to be a focus of existing coalitions and organizations (fostering coalitions), schools need to change lunch hours (organizational practices), and school nutrition policies need to be developed that foster healthy food choices (policy and legislation).

Policy Window Theory

Kingdon (1995) states that the policy window theory is comprised of three streams: politics, problems and policies. The political stream includes changes in administration, party platforms, elections, and the national mood regarding government. The problem stream includes issues within the various policy sectors. Policy solutions "float around in or near government, searching for problems to which to become attached or political events that increase their likelihood of adoption" (Bartholomew et al., 2001). Events and ideas in these streams move along independently until there is a change in one stream. At this point a "window" between the

streams opens up so that the problem may enter the political stream or a policy may become linked to a problem (Bartholomew et al., 2001).

Stage Theory of Organizational Change

Organizations are comprised of its surrounding environment at the broadest level, to the organizational structure, to the management within, to work groups, and to each individual member. Each of these layers can be affected by change (Glanz, Lewis & Rimer, 1997).

According to Glanz et al. (1997), stage theory of organizational change explains how organizations innovate new goals, programs, technologies, and ideas through a series of steps or stages. There are seven stages to this theory.

1. *Sensing of unsatisfied demands on the system.* A problem is detected by the system.

2. *Search for possible responses.* Alternative solutions are identified.

3. *Evaluation of alternatives.* Alternative solutions are compared.

4. *Decision to adopt a course of action.* A strategy is adopted based on the accepted alternative.

5. *Initiation of action within the system.* A policy for implementing the change is formulated. Resources necessary for implementation are acquired.

6. *Implementation of change.* Resources are allotted and intervention is carried out.

7. *Institutionalization of change.* The intervention becomes part of routine organizational operations.

Furthermore, within this model different actors play leading roles at different stages. Decisions to adopt and to institutionalize are essentially political, therefore administrators take the leading roles at these times. Implementation however, appears to be more a technical enterprise and involves professional skills more so than administrative and political skills.

Organizational change has been implemented to facilitate changes in school lunch and physical education programs (Simons-Morton, Parcel, O'Hara, 1988). The *Go for Health* program focuses on the implementation of changes in organizational structures in the school environment that influence the target health behaviors (Simons-Morton et al., 1988). Innovations should first be introduced to administrative decision makers of schools, some of whom may agree to adopt the innovation. The change agent would then work with designated internal agents to implement the program (Parcel, Simons-Morton, & Kolbe, 1988).

Organizational change is a dynamic process, and in the school setting should involve school board members, administrators, parents, teachers, staff, and students. Involvement occurs at four stages in the change process: institutional commitment, structural alteration in school policies, changes in roles and practices of staff, and implementation of learning objectives (Parcel, Simon-Morton, O'Hara, Baranowski, Kolbe, & Bee, 1987). Institutional commitment refers to the official acceptance of a school to participate in a particular intervention. Structural alteration in school policies refers to any change in policy or environment that staff members are expected to implement. Role performance includes the teachers and staff required to accommodate the implementation of the innovation. Implementation of learning activities refers to various activities, for example physical education, health education, and the new school lunch (Simons-Morton et al., 1988).

PRECEDE-PROCEED

The PRECEDE-PROCEED framework is a systematic planning process, which originated in the 1970s. The model encourages consideration of both individual and environmental factors that influence health and health behaviors. PRECEDE generates specific

objectives and criteria for evaluation. PROCEED offers additional steps for developing policy and initiating the implementation and evaluation process (Glanz et al, 1997).

The acronym PRECEDE stands for Predisposing, Reinforcing, Enabling Constructs in Educational Diagnosis and Evaluation, and the model is based on the premise that just as medical diagnosis precedes a treatment plan, so should educational diagnosis precede an intervention plan (Green, Krueter, Deeds, and Partridge, 1980). In 1991, PROCEED (Policy, Regulatory, and Organizational Constructs in Educational and Environmental Development) was added to the framework, to recognize a need for health promotion interventions that go beyond traditional educational approaches to changing unhealthy behaviors (Green & Krueter, 1999). PROCEED highlights the role of the environmental factors as determinants of health and health related behaviors (Glanz et al, 1997).

One phase of particular interest within this model is the administrative and policy assessment. Its purpose is to identify the policies, resources, and circumstances prevailing in a program's organizational context that could facilitate or hinder program implementation (Glanz et al., 1997). Policy, relative to the PRECEDE-PROCEED model, is the set of objectives and rules guiding the activities of an organization or administration. This phase allows for the assessment of organizational and administrative capabilities and resources for the development and implementation of a program. The limitations of resources and policies are also addressed in this phase (Glanz et al., 1997).

Social Marketing

Social Marketing uses commercial marketing technologies, philosophies, and theories to promote "socially beneficial," voluntary behavior change. This marketing technique targets specific audiences and depends heavily on influence as opposed to coercive strategies. Social

marketing understands consumers and is willing to change its product to meet the needs of consumers. It relies heavily on consumer data, is aware of items that are competing for the consumer's attention and utilizes the exchange theory (Siegel & Doner, 1998).

Audience segmentation, one aspect of social marketing, refers to the process of dividing a population into distinct segments based on characteristics that influence their responsiveness to marketing interventions. Policy makers, for instance, can be segmented into three groups (Siegel & Doner, 1998): those who will definitely support the policy, those who will definitely oppose the policy and those who are in the middle. It often might be most efficient to focus a campaign on the third group. It may not make sense to use limited time and resources on legislators who are unlikely to change their voting positions.

The other relevant aspect of social marketing is formative research. The qualitative and quantitative data collection is conducted to understand the consumer's perception of the product benefits, price and other factors of the particular product that influence consumer behavior. Siegel and Doner (1998) state that formative research can provide several important pieces of background information on policy makers. First, the current position of legislators on a particular issue and how they have voted in the past can be useful. Second, it is important to identify legislators who hold key positions of influence. Thirdly, it is important to identify potential sources of influence on critical policy makers. Fourthly, it may be useful to identify the source of campaign contributions for legislators. Finally, it may be important to identify friends and family of council members, who may be the most effective liaison to the policy maker.

The Center for Advanced Studies in Nutrition and Social Marketing at University of California, Davis has published two well documented resources that focus on promoting nutrition and physical activity through social marketing approaches (Alcalay & Bell, 2000;

Carroll, Craypo, & Samuels, 2000). Both documents provide an overview of how social marketing has been used to promote nutrition and physical activity and evaluation efforts of these interventions.

Transtheoretical Model

The Transtheoretical Model uses stages of change to integrate processes and principles of change from across major theories of intervention. As a comparative analysis of leading theories of psychotherapy and behavioral change, ten processes of change were identified among these theories (Glanz et al., 1997). According to Glanz et al. (1997), Prochaska and DiClemente found that behavioral change unfolds through a series of stages. The stages of change include precontemplation, contemplation, preparation, action, maintenance, and termination. Precontemplation refers to the stage where an individual has no intention to take action within the next six months. A person in contemplation intends to take action within the next six months. Preparation refers to taking action within the next thirty days and already taking some behavioral steps in this direction. Action is the stage where the individual has changed overt behavior for less than six months. Maintenance refers to an individual who has changed overt behavior for more than six months. Finally, termination refers to the stage where individuals have no temptation and 100% self-efficacy or confidence. The processes of change are covert and overt activities that people use to progress through the stages. They include conscious raising, dramatic relief, self-reevaluation, environmental reevaluation, self-liberation, helping relationships, counterconditioning, contingency management, stimulus control, and social liberation.

The process of interest is social liberation. By definition, social liberation realizes that social norms are changing in the directions of supporting the healthy behavior change. It is at

this point that policy plays a crucial role in assisting behavioral change throughout the preparation stage. Social liberation requires an increase in social opportunities or alternatives. Advocacy, empowerment procedures, and appropriate policies can produce increased opportunities for health promotion (i.e. salad bars in school lunchrooms) (Glanz et al., 1997).

Diffusion of Innovations

Glanz et al. (1997) asserts that the diffusion theory is derived from a body of research that has attempted to identify predictable patterns of program adoption, among a variety of population groups across a range of innovations. The change principles that underlie the diffusion process are no different at the individual, organizational or community level. At the organizational level in particular, the successful uptake of an innovation may require the introduction of particular programs or services, changes in policies or regulations, or changes in the roles and functions of a particular personnel (Glanz et al., 1997).

Ecological Models

Ecological models are comprehensive health promotion models that are multi-faceted, concerned with environmental change, behavior, and policy that help individuals make healthy choices in their daily lives. The purpose of an ecological model is to focus attention on the environmental causes of behavior and to identify environmental interventions (McLeroy, Bibeau, Steckler, & Glanz, 1988). It takes into account the physical environment and its relationship to people at individual, interpersonal, organizational and community levels.

Public health approaches to improving nutrition practices include direct action through changing the food supply and environment of food consumption, and making clinical and educational programs available to wider audiences (Glanz & Mullis, 1988). Glanz et al. (1997)

suggests an ecological perspective, which reflects multiple levels of influence on eating at the institutional, community, and public policy level.

Communities are affected by the interactions of organizations, institutions, and social networks (McLeroy et al., 1988). In some cases there is a complex interplay of factors that affect nutrition in communities, especially when the community as a whole is not receiving healthy foods due to importing problems. Governmental policies at the national, state, and local levels influence dietary behaviors. Many policies are generous for unhealthy and high-fat products than for those considered healthful. For example, federal policies in the United States that subsidize producers of many agricultural commodities. These policies also produce surplus amounts of fatty foods such as cheese and meat, and the surpluses are then given to schools and poor people. In addition, state and local policies that minimize funding for school lunches pressure schools to rely on unhealthful donated commodities. As a result, school lunches are higher in fat content than is recommended.

Glanz et al. (1997) also states that the conceptualization of institutional, community, and public policy is also applicable to physical activity. They propose that at the institutional level, schools influence physical activity through physical education, recess periods, and health education. At the community level, physical design is important. It is necessary to have physical activity resources such as parks, recreational facilities, and walking or bicycling trails. It is also necessary to understand safety, attractiveness, and resources in designing an intervention. One of the major barriers to physical activity is policies that are not intended to consider physical activity. For example, policies that provide funding for roads and highways, but little for walking and bicycle trails. In addition, budget cuts in school physical education that

reflect a priority on preserving core academic programs without consideration of the effects on children's physical activity.

Community Organization

According to Glanz et al. (1997), community organization is the process by which community groups are helped to identify common problems or goals, mobilize resources, and in other ways, develop and implement strategies for reaching the goals they collectively have set. The embedded theme is that of empowerment through which individuals and communities take control of their lives and their environment. The authors strongly state that the problems or needs around which the community group is organized must be of necessity, be identified by the community itself and not by an outside organization or change agent.

Planned Approach to Community Health [PATCH]

Planned Approach to Community Health, or PATCH, is a cooperative program of technical assistance managed and supported by the CDC. It is designed to strengthen state and local health departments' capacities to plan, implement, and evaluate community-based health promotion activities targeted toward priority health problems (Kreuter, 1992). A fundamental principal of PATCH is that people become committed to concepts and activities that they help to conceive and carry out.

Speers (1992) states that PATCH facilitates a collaborative, community-based program. The essential elements of PATCH are community organization with strong support and participation, community members recommending goals using local health data, ranking health problems and setting objectives, carrying out interventions, and evaluating the program and interventions. PATCH symbolizes empowerment, leadership and decision making by the

community. Communities organize themselves for action, collect, analyze, and interpret local data, set priorities and objectives, and implement and evaluate interventions.

<u>Model and Theory Summary</u>

The literature encourages the use of policy to address the problems of nutrition and physical activity in the schools. The ecological model suggests that the environment plays a key role and a great deal of emphasis should be targeted toward the environment. The PATCH model demonstrates that communities have a voice; after all, their children are the ones that attend these schools and experience the lack of good nutrition and physical activity. Once organized, communities can prove to be very helpful, as also depicted by the community organization model. In addition, the stage theory of organizational change encourages the use of steps to create new goals, programs, technologies, and ideas.

The spectrum of prevention allows for prevention efforts at the individual, community and organizational levels with a strong policy component. Using this model, and the social marketing framework, which emphasizes consumer perceptions, audience segmentation and exchange theory, a sound theoretical framework can be established to better understand the role of the school board members in implementing nutrition and physical activity policies in schools.
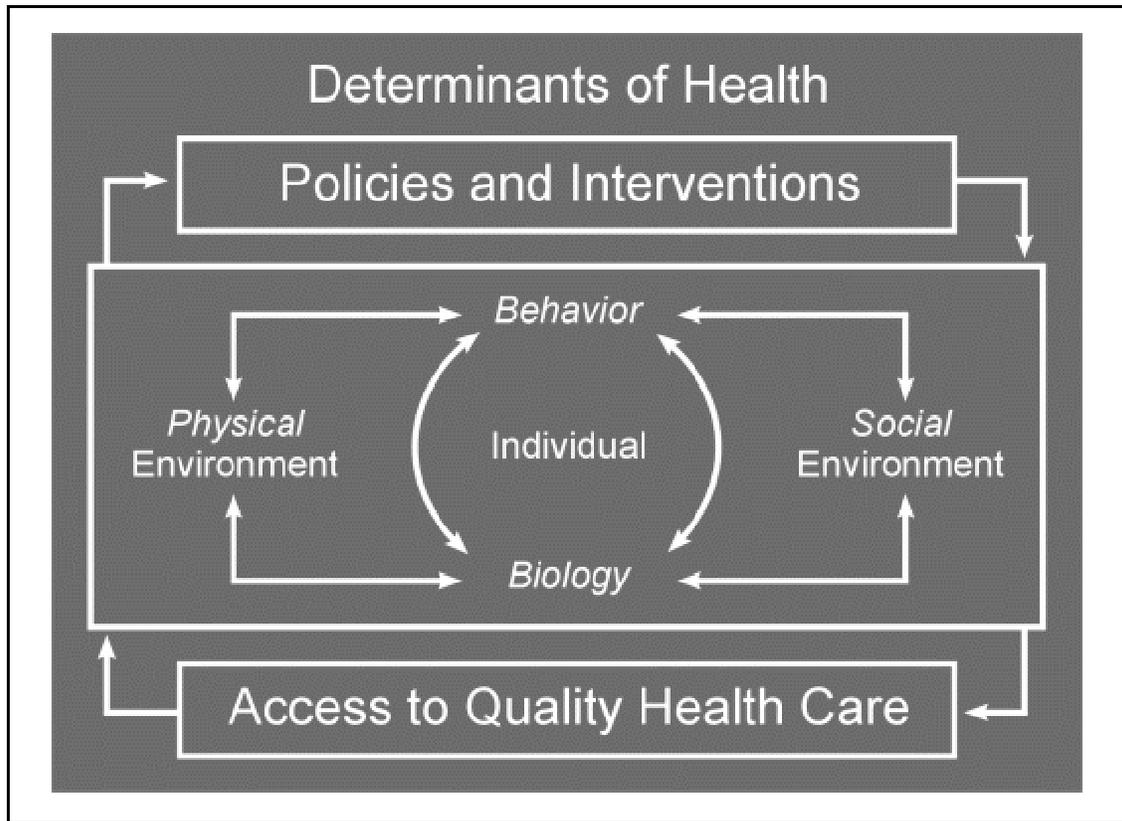
Figure 1.

Comprehensive School Health Program

Figure 2

Table 1

Health Indicators of the Past Century

Leading Causes of Death, all ages		10 Actual Causes of Death***	10 Leading Causes of Death, Ages 15-24, Both Sexes, 1998**	10 Leading Health Indicators****
1900*	1998**			
Pneumonia	Heart disease	Tobacco use	Unintentional injuries	Physical activity
Tuberculosis	Cancer	Dietary practices and physical inactivity	Homicide	Overweight and obesity
Diarrhea and enteritis	Stroke	Alcohol use	Suicide	Tobacco use
Diseases of the heart	Chronic obstructive pulmonary disease	Microbial agents	Cancer	Substance abuse
Intracranial lesions of vascular origin	Unintentional injuries	Toxic agents	Heart disease	Responsible sexual behavior
Nephritis	Pneumonia/ Influenza	Firearms	Congenital anomalies	Mental health
All accidents	Diabetes	Consequences of sexual behavior	Chronic obstructive pulmonary disease	Injury and violence
Cancer	Suicide	Motor vehicle accidents	Pneumonia/ Influenza	Environmental quality
Certain diseases of early infancy	Kidney disease	Use of illicit drugs	HIV infection	Immunization
Diphtheria	Chronic liver disease and cirrhosis		Stroke	Access to health care

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Appendix A

A Blueprint for Education Policymakers' Involvement in Prevention Efforts

A Blueprint for Education Policymakers' Involvement in Prevention Efforts

Enhancing the academic success of all youth

- ✓ Ensure that state standards encompass a variety of subject matters that tap into the aptitudes and interests of all students.
- ✓ Commission the development of curriculum frameworks and assessment tools in a variety of subject areas that address ways to meet the learning needs of all students.
- ✓ Encourage local school districts to establish academic support services for students who are at risk of academic failure.

Enhancing the health literacy and health status of all youth

- ✓ Incorporate comprehensive school health education, including sexuality education, into state standards, assessment, and accountability systems.
- ✓ Include indicators of general well-being and health literacy that are tied to academic success in statewide accountability systems.
- ✓ Work with state public health and social service officials to facilitate access to high-caliber, affordable physical and mental health care for children, youth and their families.

Enhancing the career skills and aspirations of all youth

- ✓ Endorse the integral use of community service-learning, mentoring programs, and applied instruction in local curriculum.
- ✓ Direct state education agency staff to provide training and technical assistance on the implementation of school-to-work programs at the local level.
- ✓ Encourage local school districts to expose students to the wide array of vocational and career opportunities available, to provide students with opportunities to identify their particular aptitudes and interests, and to provide students of the courses of study necessary to prepare for their fields of interest.

Enhancing family, community, and other supports for the success of all youth.

- ✓ Direct state education agency staff to develop guidelines for local school districts interested in comprehensively addressing teen pregnancy prevention and student achievement.
- ✓ Urge colleges and universities to revamp their pre-service education programs to build the knowledge and skills of future education personnel to effectively function in the changing landscape of education and include information on child and adolescent development and prevention issues.
- ✓ Establish professional development on prevention and health issues for current education professionals as a priority area in education reform initiatives.
- ✓ Collaborate with state health and social service officials to ensure adequate funding for local innovations.

Appendix B

National School Breakfast Program

The National School Breakfast Program was established by Congress, initially as a temporary measure through the Child Nutrition Act of 1966 in areas where children had long bus rides to school and in areas where many mothers were in the workforce (Food Research and Action Center [FRAC]). The School Breakfast Program began as a pilot project in 1966, and was made permanent in 1975. The program is administered at the Federal level by the U.S. Department of Agriculture through its Food and Consumer Service (FCS). At the local level, state education agencies and local school food authorities administer the program.

According School Board of Osceola County, Florida (1999) teachers have reported that their students are more alert and perform better in class if they eat breakfast. The school board also reports that participation in the School Breakfast Program is associated with significant improvements in academic functioning among low-income elementary school children.

The School Breakfast Program provides per meal cash reimbursements as an entitlement to public and nonprofit private schools and residential childcare institutions to cover the costs of serving breakfast to students. Families are eligible for the school breakfast program based on their income. To receive a free meal, household income must fall below 130 percent of the poverty level; for reduced-price meals, it must be between 185 and 130 percent of poverty (FRAC, 2000).

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Appendix C

National School Lunch Program

The National School Lunch Program (NSLP) is a federally assisted meal program operating in more than 94,000 public and nonprofit private schools and residential childcare institutions nationwide. The NLSP was created by Congress over 50 years ago as a "measure of national security, to safeguard the health and well-being of the Nation's children" (Food Research and Action Center (FRAC), 2000b).   It was a direct response to the fact that many of the young men responding to the draft call in WWII were rejected due to conditions arising from serious nutritional deficiencies. In 1946 President Harry Truman signed the 1946 National School Lunch Act which provided the opportunity for children across the United States to receive at least one healthful meal every school day. The program generally provides nutritionally balanced, low-cost or free lunches to more than 26 million children each school day.

The NSLP provides per meal cash reimbursements as an entitlement to schools to provide nutritious meals to children. The National School Lunch Program provides school children with one-third or more of their Recommended Dietary Allowance (RDA) for key nutrients. The United States Department of Agriculture (USDA) research indicates that children who participate in School Lunch have superior nutritional intakes compared to those who do not (FRAC, 2000b).

In 1994, in an effort to improve the nutritional quality of school meals, Food and Nutrition Service (FNS) launched the School Meals Initiative for Healthy Children, the first full-scale reform of the school lunch program since it was established (School Board of Osceola County, Florida, 1999b). The focus of the initiative was new regulations to update nutrition standards so that all school meals will meet the recommendations of the Dietary Guidelines for Americans. The new regulations became final in June, 1995, and took effect at the beginning of school year 1996-97. In support of USDA's School Meals Initiative, in October, 1994, Congress

passed the Healthy Meals for Healthy Americans Act, requiring that all school meals conform to the Dietary Guidelines by school year 1996-97. The Healthy Meals for Children Act, passed in May, 1996, expanded the range of menu planning options for schools, and reinforced the requirement that all school meals must meet the Dietary Guidelines (School Board of Osceola County, Florida, 1999).

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Appendix D

Select Online Resources

Select Online Resources

American Academy of Pediatrics. School Health Resources for Pediatricians.

Available: http://www.schoolhealth.org/

- This site offers information on the Comprehensive School Health -- Capacity And Policy (CSH-CAP) Initiative which intends to increase the number of pediatricians involved in school health programs through national training efforts and the development of a database and other resources to assist them. The site also provides information on school health related policies.

American School Health Association. Promoting the health of our nation's youth.

Available: http://www.ashaweb.org

- This site provides access to publications (journal articles and materials) related to coordinated school health programs.

Resources for Health Educators. Available: http://www.indiana.edu/~aphs/hlthk-12.html

- **This site provides valuable school health education links.**

California Department of Health Services. Comprehensive school health program.

Available: http://www.dhs.ca.gov/pcfh/cshp/cshpindex.htm

- This site describes the creation of an infrastructure for providing leadership and coordination in the area of comprehensive school health in California. It provides a program description, areas to seek technical assistance, and addresses the partnerships needed implement CSHP.

California School Board Association. Targeting student learning: The school boards role as policymaker. Available: http://www.csba.org/PS/targeting.htm

- This site provides access to publications and other resources that would help districts develop a more purposeful approach to policymaking, focusing on issues related to student learning. It provides a framework that emphasizes the key components to effective policy development, adoption and maintenance.

Centers for Disease Control and Prevention. A coordinated school health program.

Available: http://www.cdc.gov/nccdphp/dash/cshpdef.htm

- This site provides a description of the eight interactive components of the coordinated school health program(CSHP). In addition it highlights the Programs that Work project which helps educators identify curricula that effectively reduce sexual risk behaviors that contribute to HIV and other STD infections and unintended pregnancy and tobacco-use behavior. Other features include the School Health Index, which is a self-assessment and planning tool for schools, and information on funded programs at the state level.

Massachusetts Department of Education. Massachusetts Curriculum Frameworks.

Available: http://www.doe.mass.edu/frameworks/current.html

- This site provides a curriculum framework for comprehensive health in addition to other education resources.

National Association of School Nurses. Table of contents of Journal of School Nursing is available, as well as position statements and issue briefs.

Available: http://www.nasn.org/

National Governor's Association [NGA] Center for Best Practices. Improving

academic performance by meeting student health needs. October 13. Online:

www.nga.org/Pubs/IssueBriefs/2000/001013StudentHealth.aspod

U.S. Department of Agriculture (USDA). A variety of school nutrition related

information, including School Lunch Program, School Breakfast Program, and *Eat Smart. Play*

Hard.

Available: http://www.fns.usda.gov/

Appendix E

A Select Bibliography

Nutrition and Academic Achievement

Competitive Foods

Physical Activity and Academic Achievement

Coordinated School Health Programs

School Health Policies/School Board Members

Nutrition and Academic Achievement

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