The Center for Disease Control and Prevention's Coordinated School Health Model: Practical Program Evaluation Guidance for School Health Teams

Lorain County
Coordinated School Health Workshop
November 17, 2011

Overview

- The Coordinated School Health Model (CSHM)
- Research on CSHM and Student Outcomes
- Research on CSHM and Staff Outcomes
- How to Evaluate a Health Intervention

CDC's Coordinated School Health Model (CSHM)

ORIGINS
COMPONENTS

ORIGINS

Nineteenth Century

- School health historians credit Lemuel Shattuck as the individual most closely associated with the modern school health era that began in 1850. He wrote on the connection between public health and infectious disease, and reorganized his local school system to demonstrate how schools could impact public health.
- In the late1860s, New York City began a systematic effort to investigate the sanitary conditions of schools, finding examples of overcrowding and pervasive filth.
- By 1870 New York City required smallpox vaccinations of students.[1]

Twentieth Century

- By 1902, evidence of the effectiveness of school nurses in reducing student absenteeism led to wider employment of nurses working alongside local physicians to administer medical inspections of students and treating minor health problems in schools.
- A movement towards formalized school health programs coalesced around the issues raised by the spread of tuberculosis, hygiene standards and the temperance movement.
- In preparation for World War I, formal school health programs took root to address malnutrition and poor physical health among students.[1]

Requirements

- In 1911, the Joint Committee on Health Problems of the National Education Association and the American Medical Association was formed, advocating for the improvement of student health status through coordinated school health interventions.[2]
- The NEA-AMA Joint Committee published reports on minimum health requirements for schools, and sponsored research to identify the extent of health education in the public schools.

Research

- Descriptive research conducted by the American Child Health Association in 1923 and 1925 provided additional data regarding school health service programs, setting the stage for the advent of health program evaluations.[3]
- The first formal evaluation of a local school health service program was conducted in the Astoria Health District of New York City, and focused on the impact of a program that ran from 1936 to 1940.[4]

Legislation

- Experience with World War I draftees led to mandatory physical education in schools following the war.
- Additionally, the nutritional deficiencies found among World War II draftees led to the National School Lunch program in 1946.
- These efforts were consolidated in the 1960s and 1970s in the form of legislation such as Medicaid, the Community Health Center Program, and the Child Nutrition Act.
- The School Health Education Study led to additional legislative efforts to provide health services to public school students.

Coordination

- In 1987, the American School Health Association published a special issue of the Journal of School Health to develop the research foundations of a comprehensive and coordinated school health model. Eight program components were identified as essential in that context:
  - School health services
  - School health education
  - School health environment
  - Integrated school and community health promotion
  - School physical education
  - School food service
  - School counseling
  - School site health promotion program for faculty and staff[5]

Communications

- The CDC's Division of Adolescent and School Health began work in 1994 to facilitate the development of the components of a comprehensive school health program and provide steps for implementation at the school district level and support at the levels of state and federal government.
- The publication of the resulting text, '*Health is Academic: A Guide to Coordinated School Health Programs*', led to a study by the Institute of Medicine that provided schools and policymakers with additional coordinated school health program (CSHP) guidance.[6]

Coordination and Guidance

- Since 1994, the Adolescent and School Health Division has produced additional information, data and guidance on CSHP development. The website http://www.cdc.gov/healthyyouth/cshp/index.htm provides access to many of these resources.
- In Ohio, the Ohio Department of Health (http://www.odh.ohio.gov/) and the Buckeye Healthy Schools Alliance (http://www.bhsalliance.org/index.html) have sponsored annual coordinated school health conferences since 1989 to improve the operation of CSHP throughout the state.

Twenty-first Century

- The tentative dates for the 2012 Buckeye Healthy Schools Alliance's Coordinated School Health Conference are as follows:
  - **June 19** Pre-Conference
  - **June 20** Coordinated School Health Conference
  - **June 21** Coordinated School Health Conference
- For more information, see http://www.bhsalliance.org/Conferences.html.

COMPONENTS

Components of the CDC CSHM[7]

- Health Education
- Physical Education
- Health Services
- Nutrition Services
- Counseling and Psychological Services
- Healthy School Environment
- Health Promotion for Staff
- Family/Community Involvement

Health Education

- "Comprehensive school health education includes courses of study (curricula) for students in pre-K through grade 12 that address a variety of topics such as alcohol and other drug use and abuse, healthy eating/nutrition, mental and emotional health, personal health and wellness, physical activity, safety and injury prevention, sexual health, tobacco use, and violence prevention.
- Health education curricula should address the National Health Education Standards (NHES) and incorporate the characteristics of an effective health education curriculum (http://www.cdc.gov/healthyyouth/SHER/standards/index.htm)..."

Physical Education

- "Physical education (PE) is a school-based instructional opportunity for students to gain the necessary skills and knowledge for lifelong participation in physical activity. PE is characterized by a planned, sequential K-12 curriculum (course of study) that provides cognitive content and learning experiences in a variety of activity areas. Quality PE programs assist students in achieving the national standards for K-12 physical education (http://www.aahperd.org/naspe/standards/nationalStandards/PEstandards.cfm)..."

Health Services

- "These services are designed to ensure access or referral to primary health care services or both, foster appropriate use of primary health care services, prevent and control communicable disease and other health problems, provide emergency care for illness or injury, promote and provide optimum sanitary conditions for a safe school facility and school environment, and provide educational and counseling opportunities for promoting and maintaining individual, family, and community health..."

Nutrition Services

- "Schools should provide access to a variety of nutritious and appealing meals that accommodate the health and nutrition needs of all students. School nutrition programs reflect the U.S. Dietary Guidelines for Americans and other criteria to achieve nutrition integrity. The school nutrition services offer students a learning laboratory for classroom nutrition and health education, and serve as a resource for linkages with nutrition-related community services…"

Counseling and Psychological Services

- "These services are provided to improve students' mental, emotional, and social health and include individual and group assessments, interventions, and referrals. Organizational assessment and consultation skills of counselors and psychologists contribute not only to the health of students but also to the health of the school environment…"

Healthy and Safe School Environment

- "A healthy and safe school environment includes the physical and aesthetic surroundings and the psychosocial climate and culture of the school. Factors that influence the physical environment include the school building and the area surrounding it, any biological or chemical agents that are detrimental to health, and physical conditions such as temperature, noise, and lighting. The psychosocial environment includes the physical, emotional, and social conditions that affect the well-being of students and staff."

Health Promotion for Staff

- "Schools can provide opportunities for school staff members to improve their health status through activities such as health assessments, health education, and health-related fitness activities. These opportunities encourage staff members to pursue a healthy lifestyle that contributes to their improved health status, improved morale, and a greater personal commitment to the school's overall coordinated health program. This personal commitment often transfers into greater commitment to the health of students and creates positive role modeling. Health promotion activities have improved productivity, decreased absenteeism, and reduced health insurance costs."

Family and Community Involvement

- "An integrated school, parent, and community approach can enhance the health and well-being of students. School health advisory councils, coalitions, and broadly based constituencies for school health can build support for school health program efforts. Schools actively solicit parent involvement and engage community resources and services to respond more effectively to the health-related needs of students."

Goals of the CDC's CSHP

- The Centers for Disease Control and Prevention's CSHP staff have adopted the four goals advanced by researcher Lloyd Kolbe:
  - Increase health knowledge, attitudes and skills
  - Increase positive health behaviors and health outcomes
  - Improve education outcomes
  - Improve social outcomes[8]
- These goals can in turn be adopted to local CSHP program development, implementation and evaluation.

Research on CSHM and Student Health

HEALTH PROBLEMS IMPACTING MOTIVATION AND LEARNING CAPACITY

Student Health, Motivation and Learning Capacity

- As Basch explains, health impacts student motivation and learning capacity through five interrelated pathways:
  - Sensory perceptions; cognition; connectedness and engagement with school; absenteeism; and dropping out.
- Schools can address student health priorities through coordinated school health interventions that address multiple health risks.
- Progress towards reducing health disparities occur in the context of school climate and connectedness.

Asthma

- Asthma, a chronic respiratory disease causing attacks of wheezing, coughing and shortness of breath, can range from mild to severe.
- It is estimated that 14 to 20 percent of all youth under 18 years of age have been diagnosed with asthma. Higher acuity and prevalence rates have been found among low income and minority students.
- Asthma impacts student achievement through lowered concentration, memory and task orientation through sleep deprivation; connectedness and engagement in school through asthma co-morbidities; and absenteeism.

Student Health Priorities

- In a seminal research review published in 2010, seven critical health priorities for primary and secondary students were identified by their prevalence, breadth of causal evidence, and feasibility for change through policies and programs:
  - Vision; asthma; teen pregnancy; aggression and violence; physical activity; breakfast; and inattention and hyperactivity. [9]

Vision

- The term 'vision problem' can describe everything from minor problems with focus through blindness.
- It is estimated that more than 20 percent of school-aged youth possess some kind of vision problem. Rates of impairment are significantly higher among minorities than among white students, perhaps due to a greater risk of not being diagnosed or treated for vision problems.
- Vision impacts academic achievement most in reading and focusing.
- Vision problems lead to short attention spans, frequent headaches, losing place when reading and reading comprehension.

Teen Pregnancy

- Approximately 4.2 percent of U.S. females aged 15-19 gave birth in 2006; the birth rate was 41.9 per 1,000, the first rise since 1991. This rate is higher for low-income and minority females.
- Compared to teen women who do not give birth, teen mothers are less likely to complete high school and college. Children of teen mothers are also more likely to become teen mothers themselves.
- Teen mothers are associated with lower educational outcomes through an increased risk of dropping out of school.

Aggression and Violence

- Researchers define 'aggression and violence' in school settings as threats, attacks and injuries to students and staff. This data is tracked annually in the National Center for Education Statistics' *Indicators of School Crime and Safety*. And the Centers for Disease Control and Prevention's Youth Risk Behavior Study.
- In 2005, 8 percent of 9th- 12th grade students reported being threatened or injured with a weapon in the preceding 12 months, while 28 percent reported being bullied at school in the last 6 months.
- Exposure to aggression is negatively associated with academic achievement through cognition, school connectedness and absenteeism.

Physical Activity

- Physical activity and/or aerobic fitness is associated with healthier body weight, blood pressure, bone health, and mental/emotional health. According to one study cited by Basch, "there is an inverse relationship between school's median household income and average body mass index" (Basch, 2010, p. 40).
- Prevalence data for Ohio comes from the 2011 Youth Risk Behavior Survey: 74.6 percent of high school students did not attend PE class daily, and 14.7 percent were obese.
- Physical activity impacts metabolism and all major body systems and positively influences cognitive functioning, physical and mental health.

Breakfast

- A school breakfast program can be implemented in communities where food insecurity is high. Estimates vary, but as many as 25 percent of students do not eat breakfast prior to attending school each day; this level increases with age throughout a student's school tenure.
- Breakfast impacts academic achievement primarily through cognition (e.g., alertness, attention, memory, processing of complex visual displays, problem solving and mathematics), and is also associated with tardiness and absenteeism.

Inattention and Hyperactivity

- ADHD is a disruptive behavior disorder characterized by the presence of a set of chronic and impairing behavior patterns that display abnormal levels of inattention, hyperactivity, or their combination. Approximately 8 percent of students aged 6 – 17 have been diagnosed with ADHD, and almost 66 percent of these control their symptoms through medication.
- ADHD is associated with lower academic achievement and educational outcomes, grade repetition and placement in special education.

Research on CSHM and Staff Health

HEALTH BEHAVIOR AND HEALTH STATUS

Staff Health and Productivity

- Health promotion efforts targeted at school faculty and staff have found a positive relationship between participation and a range of outcomes that impact health and productivity such as improved health education, nutrition, physical fitness and emotional health; and decreases in smoking and stress levels. In addition, school site health promotion programs also have demonstrated that program participation results in better blood pressure and weight control.[10]
- In addition, school site health promotion programs have also led to decreases in absenteeism, improved morale and an improvement in faculty instruction.[11]

How to Evaluate a Health Intervention

CDC PROGRAM EVALUATION FRAMEWORK

CDC Program Evaluation Framework

CDC Framework for Evaluation in Public Health

- The Center for Disease Control and Prevention's *Framework for Program Evaluation in Public Health* comprises a series of steps in program evaluation practice in concert with the application of the Joint Committee for Standards in Educational Evaluation's *Program Evaluation Standards* (1994).
- It was published as the following:
  - Centers for Disease Control and Prevention (1999). Framework for program evaluation in public health. *MMWR, 48*, 1-40.

Framework Development

- The CDC's Evaluation Working Group met with evaluation experts, public health program staff, state and local health officials, public health organization representatives, community-based researchers, U.S. Public Health Service representatives and CDC staff to develop information for a draft; a workshop developed the draft further.
- Interviews were conducted with 250 persons, and the draft was shared with 10,000 public health professionals before publication in the CDC's *Morbidity and Mortality Weekly Report*, making the Framework one of the most inclusive models in the history of public health evaluation.

Six Steps

1. Engage stakeholders.
2. Describe the program.
3. Focus the evaluation design.
4. Gather credible evidence.
5. Justify conclusions.
6. Ensure use and share lessons learned.

Program Evaluation Standards

1. Utility: Program evaluations are meant to serve the information needs of intended users.
2. Feasibility: Program evaluations must be realistic, prudent, diplomatic and frugal.
3. Propriety: Program evaluators must behave legally, ethically and with regard for the welfare of those involved and affected.
4. Accuracy: Program evaluators and their deliverables must reveal and convey technically accurate information.

Step 1: Engaging Stakeholders

- The evaluator must identify and engage three principal groups of stakeholders in identifying what will be learned from an evaluation and what will be done with the knowledge that results from the process.
  - Those involved in program operations (e.g., sponsors, funders, staff)
  - Those served or affected by the program (e.g., clients, institutions)
  - Primary users of the evaluation (e.g., program participants)

Step 2: Describing the Program

- Evaluators must work with program stakeholders to develop a description of the program, including its mission and objectives, statement of need, expected effects, activities, resources, stage of development and context.
- One way in which to accomplish this task is to develop a logic model of the program. An early logic model of the relationship between CSHP components and student/staff outcomes is presented as Figure 1 in Allensworth & Kolbe, 1987; another is Figure II.1 in Devaney et. al., 1993 (see Bibliography).

Step 3: Focusing the Evaluation Design

- In order to assess the issues of greatest concern to stakeholders and use resources efficiently, the program evaluation must be focused to achieve one or more of the following purposes:
  - Gain insight
  - Change practice
  - Assess effects
  - Affect participants
- Designs should detail the users, uses, questions, methods, and agreements embedded in the program evaluation.

Step 4: Gathering Credible Evidence

- Credible evidence refers to the information gathered during the program evaluation that is seen by the stakeholders as believable and relevant for answering their questions.
- Credible evidence must be gathered through multiple means.
- Aspects of evidence gathering that affect perceptions of credibility include indicators, sources, quality, quantity and logistics.

Step 5: Justifying Conclusions

- Evaluation conclusions are justified when they are linked to the evidence gathered and judged against agreed-upon values and standards set by the stakeholders.
- Justifying conclusions on the basis of evidence includes standards, analysis and synthesis, interpretation, judgment and recommendations.

Step 6: Ensuring Use, Sharing Lessons

- Great care and planning go into ensuring that program evaluation results are used, and must be part of the initial steps of each evaluation.
- To ensure the use of program evaluation results, five elements are critical: design, preparation, feedback, follow-up and dissemination.

Standards

- The Joint Committee on Standards for Educational Evaluation developed program standards to make conducting sound and fair program evaluations practical.
- Four categories of multiple standards are advanced in the Joint Committee's *Program evaluation standards: How to assess evaluations of educational evaluations (2nd Ed.)*: utility, feasibility, propriety and accuracy.

Utility Standards

- Stakeholder identification
- Evaluator credibility
- Information scope and selection
- Values identification
- Report clarity
- Report timeliness and dissemination
- Evaluation impact

Feasibility Standards

- Practical procedures
- Political viability
- Cost-effectiveness

Propriety Standards

- Service orientation
- Formal agreements
- Rights of human subjects
- Human interactions
- Complete and fair assessment
- Disclosure of findings
- Conflict of interest
- Fiscal responsibility

Accuracy Standards

- Program documentation
- Context analysis
- Described purposes and procedures
- Defensible information sources
- Valid, reliable and systematic information
- Analysis of quantitative and qualitative information
- Justified conclusions
- Impartial reporting
- Meta-evaluation

Best Practices in Framework Use

- A team approach can succeed when a small group of carefully selected persons decides what the evaluation must accomplish and pools resources to implement the plan.
- Once a leader is designated to coordinate the team, the steps in the *Framework* are used to guide the selection of team members.
- A diverse team of engaged stakeholders has a greater probability of conducting a culturally competent evaluation.

Integration of the Standards into the Framework

- Each of the steps in the Framework requires that evaluators utilize the Standards in planning and implementing each step in the Framework.

Additional Advice

- Additional information on each **step** in the Framework can be found at http://www.cdc.gov/eval/steps/index.htm.
- Additional information on each program evaluation **standard** can be viewed at http://www.cdc.gov/eval/standards/index.htm.
- A comprehensive school health intervention evaluation design report is also available for CSHP teams.[12]

Coda

Q & A

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