General Article

The Whole School, Whole Community, Whole Child Model: A New Approach for Improving Educational Attainment and Healthy Development for Students*

Theresa C. Lewallen, MA, CHES[a] Holly Hunt, MA[b] William Potts-Datema, MS[c] Stephanie Zaza, MD, MPH[d] Wayne Giles, MD, MS[e]

ABSTRACT

BACKGROUND: The Whole Child approach and the coordinated school health (CSH) approach both address the physical and emotional needs of students. However, a unified approach acceptable to both the health and education communities is needed to assure that students are healthy and ready to learn.

METHODS: During spring 2013, the ASCD (formerly known as the Association for Supervision and Curriculum Development) and the US Centers for Disease Control and Prevention (CDC) convened experts from the field of education and health to discuss lessons learned from implementation of the CSH and Whole Child approaches and to explore the development of a new model that would incorporate the knowledge gained through implementation to date.

RESULTS: As a result of multiple discussions and review, the Whole School, Whole Community, Whole Child (WSCC) approach was developed. The WSCC approach builds upon the traditional CSH model and ASCD's Whole Child approach to learning and promotes greater alignment between health and educational outcomes.

CONCLUSION: By focusing on children and youth as students, addressing critical education and health outcomes, organizing collaborative actions and initiatives that support students, and strongly engaging community resources, the WSCC approach offers important opportunities that will improve educational attainment and healthy development for students.

Keywords: school health; coordinated school health; whole child; health and academics.

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Since 1987, the coordinated school health (CSH) approach has served as the foundation for addressing health promotion among youth in our nation's schools. The model, originally conceptualized by Lloyd Kolbe and Diane Allensworth, in the seminal article ''The Comprehensive School Health Program: Exploring an Expanded Concept''[1] has been viewed as the essential public health framework for school health, though it has not resonated as strongly with the education sector. While the US Centers for Disease Control and Prevention (CDC) was supporting the implementation of the CSH approach, ASCD (formerly known as the Association for Supervision and Curriculum Development) launched the Commission on the Whole Child and challenged the education community to focus attention on ensuring that all students are healthy and feel supported, challenged, engaged, and safe.[2] While both of these approaches

[a]Chief Constituent Services Officer, (tlewalle@ascd.org), Constituent Services, ASCD, 1703 N. Beauregard Street, Alexandria, VA 22311.

[b]Chief, (HHunt@cdc.gov), School Health Branch, Division of Population Health, National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention, 4770 Buford Hwy NE, Atlanta, GA 30341-3717.

[c]Chief, (wpottsdatema@cdc.gov), Program Development and Services Branch, Division of Adolescent and School Health, National Center for HIV/AIDS, Viral Hepatitis, STD and TB Prevention, Centers for Disease Control and Prevention, 1600 Clifton Road NE, MS-E75, Atlanta, GA 30329-4027.

[d]Director, (szaza@cdc.gov), Division of Adolescent and School Health, National Center for HIV/AIDS, Viral Hepatitis, STD and TB Prevention, Centers for Disease Control and Prevention, 1600 Clifton Road NE, MS-E75, Atlanta, GA 30329-4027.

[e]Director, (HGiles@cdc.gov), Division of Population Health, National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention, 4770 Buford Hwy NE, Atlanta, GA 30341-3717.

Address correspondence to: Theresa C. Lewallen, Chief Constituent Services Officer, (tlewalle@ascd.org), ASCD, 1703 N. Beauregard Street, Alexandria, VA 22311.

*Indicates that continuing education hours are available. Visit www.ashaweb.org and click on Continuing Education for more information.

address the physical and emotional needs of the student, neither have resulted in a unified approach supported by both health and education sectors.[3]

METHODS

Expert Panel

During spring 2013, ASCD and CDC convened a group of experts from education, public health, and academia to discuss lessons learned from implementation of both approaches and to explore the revision and development of a model that would incorporate the knowledge gained through implementation to date. A series of meetings were held and outcomes from the discussions were vetted with a review group made up of additional experts and stakeholders (Box 1).

Summary of the Whole Child and CSH Approaches

In *The Learning Compact Redefined: A Call to Action*, ASCD implored communities, educators, and key decision makers to work together to ensure the implementation of policies that would result in successful learners who are knowledgeable, emotionally and physically healthy, civically active, artistically engaged, prepared for economic self-sufficiency, and ready for adulthood.[2] The Whole Child approach responds to this call with 5 tenets that make the student the focal point:

- Each student enters school healthy and learns about and practices a healthy lifestyle.
- Each student learns in an environment that is physically and emotionally safe for students and adults.
- Each student is actively engaged in learning and is connected to the school and broader community.
- Each student has access to personalized learning and is supported by qualified, caring adults.
- Each student is challenged academically and prepared for success in college or further study and for employment and participation in a global environment.

The CSH approach follows a systems-based approach addressing 8 components of the school as a venue for health promotion and disease prevention:

- Health education
- Physical education
- School health services
- Healthy and safe school environment
- Counseling, psychological, and social services
- Family and community involvement
- Health promotion for staff
- Nutrition services.[4]

RESULTS

As a result of these deliberations the Whole School, Whole Community, Whole Child (WSCC) model was established. The WSCC approach combines and builds on the elements of the Whole Child model and the CSH approach to create a unified model that supports a systematic, integrated, and collaborative approach to health and learning. The WSCC model is designed to provide a shared framework and approach for decision making and action for both sectors to work together (Figure 1).

The WSCC model incorporates the 5 tenets of the Whole Child model by putting the student at the center and making her/him the focal point. Surrounding the child/student is a ring that stresses the need for coordination among policy, process, and practice. While much focus has been given to coordination among components, the previous approaches did not explicitly describe the critical role of day-to-day practices and processes or the essential role of policy in sustaining a school environment that supports both health and learning.

The outer ring of the WSCC model reflects greater integration and alignment between health and education by incorporating the components of the CSH approach and emphasizing the school as an integral part of the community.[3] In addition, the model's incorporation of the important context of community and the role of coordination for policy, process, and practice is consistent with findings of an evaluation of strong CSH programs conducted by CDC's Division of Adolescent and School Health.[4] The importance of sectors and individuals working together to implement policies, practice, and process is now prominent in this integrated approach that addresses health and learning.

Some of the original CSH components have been expanded to better reflect current evidence and practice. Specifically, the healthy and safe school environment component is now separated into ''social and emotional climate'' and ''physical environment'' giving greater attention to each. The family and community involvement component is now separated into ''community involvement'' to emphasize the role of community, businesses, agencies, and organizations, and ''family engagement'' to place a greater emphasis on the critical role that families play. Health promotion for staff has been changed to ''employee wellness'' to reflect a broader approach that addresses learning new life skills and becoming aware of and making conscious choices toward a more balanced and healthy lifestyle.[5] The nutrition services component has been expanded to include the nutrition environment. Physical education is now expanded to include physical activity.

In addition to these structural changes, the definitions and descriptions of each component of the outer ring (Figure 1) have been updated and revised to better reflect the current evidence. Definitions were developed by subject matter experts and vetted with experts in the field (http://www.cdc.gov/healthyyouth/wscc/components.htm).

Box 1

CDC and ASCD Core Group

Wayne Giles, MD, MS
Director, Division of Population Health
National Center for Chronic Disease Prevention and Health Promotion
Centers for Disease Control and Prevention

Holly Hunt, MA
Chief, School Health Branch, Division of Population Health
National Center for Chronic Disease Prevention and Health Promotion
Centers for Disease Control and Prevention

Theresa C. Lewallen, MA, CHES
Chief Constituent Services Officer
ASCD

William Potts-Datema, MS
Chief, Program Development and Services Branch
Division of Adolescent and School Health
Centers for Disease Control and Prevention

Sean Slade, MEd
Director, Whole Child Programs
ASCD

Consultation Group

Diane D. Allensworth, PhD
Professor Emeritus, Kent State University

Robert Balfanz, PhD
Co-Director of the Everyone Graduates Center
Johns Hopkins University's School of Education

Charles E. Basch, PhD
Richard March Hoe Professor of Health and Education
Teachers College
Columbia University

Mark Ginsberg, PhD
Professor and Dean—College of Education and Human Development
George Mason University

Lloyd J. Kolbe, PhD
Emeritus Professor of Applied Health Science
Indiana University School of Public Health—Bloomington

Richard A. Lyons, MA
Superintendent of Schools,
Maine Regional School Unit #22

Laura Rooney, MPH
Adolescent Health Program Manager, Ohio Department of Health

Susan K. Telljohann, HSD, CHES
Professor, Health Education, Department of Health and Recreation Professions
University of Toledo

Review Group
Elaine Auld, MPH, MCHES, CEO, SOPHE
David Birch, PhD, Department Chair, University of Alabama
Marty Blank, Exec. Director, Coalition of Community Schools
Maurice Elias, PhD, Professor, Rutgers University
Susan Goekler, PhD, MCHES, Executive Director, DHPE
Dave Lohrmann, PhD, Department Chair, Indiana University
Donna J. Mazyck, RN, MS, NCSN, Executive Director, NASN
Douglas McCall, Executive Director, International School Health Network
Robert Valois, PhD, Professor, University of South Carolina

Health Education

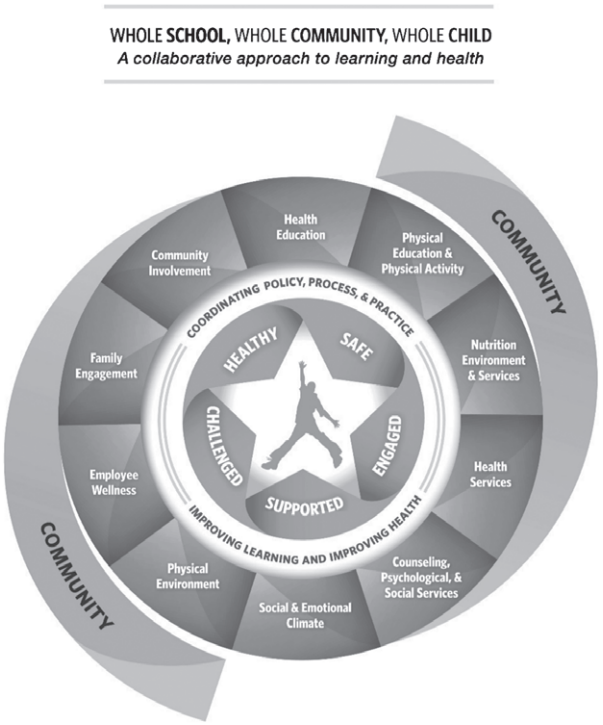
Formal, structured health education consists of any combination of planned learning experiences that provide the opportunity to acquire information and the skills students need to make quality health decisions. When provided by qualified, trained teachers, health education helps students acquire the knowledge, attitudes, and skills they need for making health-promoting decisions, achieving health literacy, adopting health-enhancing behaviors, and promoting the health of others. Comprehensive school health education includes curricula and instruction for students in pre-K to 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 and instruction should address the National Health Education Standards and incorporate the *characteristics of an effective health education curriculum*. Health education, based on an assessment of student health needs and planned in collaboration with the community, ensures reinforcement of health messages that are relevant for students and meet community needs. Students might also acquire health information through education that occurs as part of a patient visit with a school nurse, through posters or public service announcements, or through conversations with family and peers.

Nutrition Environment and Services

The school nutrition environment provides students with opportunities to learn about and practice healthy eating through available foods and beverages, nutrition education, and messages about food in the cafeteria and throughout the school campus. Students may have access to foods and beverages in a variety of venues at school including the cafeteria, vending machines, grab 'n' go kiosks, schools stores, concession stands, classroom rewards, classroom parties, school celebrations, and fundraisers.

School nutrition services provide meals that meet federal nutrition standards for the National School Lunch and Breakfast Programs, accommodate the health and nutrition needs of all students, and help ensure that foods and beverages sold outside of the school meal programs (competitive foods) meet Smart Snacks in School nutrition standards. School nutrition professionals should meet minimum education requirements and receive annual professional development and training to ensure that they have the knowledge and skills to provide these services. All individuals in the school community support a healthy school nutrition environment by marketing and promoting healthier foods and beverages, encouraging participation in the school meal programs, role-modeling healthy eating behaviors, and ensuring that students have access to free drinking water throughout the school day. Healthy eating has been linked in studies to improved learning outcomes and helps ensure that students are able to reach their potential.

Figure 1. **Whole School, Whole Community, Whole Child Conceptual Model**



Employee Wellness

Schools are not only places of learning, but they are also worksites. Fostering school employees' physical and mental health protects school staff, and by doing so, helps to support students' health and academic success. Healthy school employees—including teachers, administrators, bus drivers, cafeteria and custodial staff, and contractors—are more productive and less likely to be absent. They serve as powerful role models for students and may increase their attention to students' health. Schools can create work environments that support healthy eating, adopt active lifestyles, be tobacco free, manage stress, and avoid injury and exposure to hazards (such as mold or asbestos). A comprehensive school employee wellness approach is a coordinated set of programs, policies, benefits, and environmental supports designed to address multiple risk factors (including lack of physical activity and tobacco use) and health conditions (such as diabetes or depression) to meet the health and safety needs

of all employees. Partnerships between school districts and their health insurance providers can help offer resources, including personalized health assessments and flu vaccinations. Employee wellness programs and healthy work environments can improve a district's bottom line by decreasing employee health insurance premiums, reducing employee turnover, and cutting costs of substitutes.

Social and Emotional School Climate

Social and emotional school climate refers to the psychosocial aspects of students' educational experience that influence their social and emotional development. The social and emotional climate of a school can impact student engagement in school activities; relationships with other students, staff, family, and community; and academic performance. A positive social and emotional school climate is conducive to effective teaching and learning. Such climates promote health, growth, and development by providing a safe and supportive learning environment.

Physical Environment

A healthy and safe physical school environment promotes learning by ensuring the health and safety of students and staff. The physical school environment encompasses the school building and its contents, the land on which the school is located, and the area surrounding it. A healthy school environment will address a school's physical condition during normal operation as well as during renovation (including ventilation, moisture, temperature, noise, or natural and artificial lighting), and protect occupants from physical threats (such as crime, violence, traffic, or injuries) and biological and chemical agents in the air, water, or soil as well as those purposefully brought into the school (including pollution, mold, hazardous materials, pesticides, or cleaning agents).

Health Services

School health services intervene with actual and potential health problems, including providing first aid, emergency care and assessment, and planning for the management of chronic conditions (such as asthma or diabetes). In addition, wellness promotion, preventive services and staff, and student and parent education complement the provision of care coordination services. These services are also designed to ensure access and/or referrals to the medical home or private healthcare provider. Health services connect school staff, students, families, community, and healthcare providers to promote the health care of students and a healthy and safe school environment. School health services actively collaborate with school and community support services to increase the ability of students and families to adapt to health and social stressors, such as chronic health conditions or social and economic barriers to health, and to be able to manage these stressors and advocate for their own health and learning needs. Qualified professionals such as school nurses, nurse practitioners, dentists, health educators, physicians, physician assistants, and allied health personnel provide these services.

Counseling, Psychological, and Social Services

These prevention and intervention services support the mental, behavioral, and social-emotional health of students and promote success in the learning process. Services include psychological, psychoeducational, and psychosocial assessments; direct and indirect interventions to address psychological, academic, and social barriers to learning, such as individual or group counseling and consultation; and referrals to school and community support services as needed. Additionally, systems-level assessment, prevention, intervention, and program design by school-employed mental health professionals contribute to the mental and behavioral health of students as well as to the health of the school environment. These services can be accomplished through resource identification and needs assessments, school-community-family collaboration, and ongoing participation in school safety and crisis response efforts. Additionally, school-employed professionals can provide skilled consultation with other school staff and community resources and community providers. School-employed mental health professionals ensure that services provided in school reinforce learning and help to align interventions provided by community providers with the school environment. Professionals such as certified school counselors, school psychologists, and school social workers provide these services.

Community Involvement

Community groups, organizations, and local businesses create partnerships with schools, share resources, and volunteer to support student learning, development, and health-related activities. The school, its students, and their families benefit when leaders and staff at the district or school solicits and coordinates information, resources, and services available from community-based organizations, businesses, cultural and civic organizations, social service agencies, faith-based organizations, health clinics, colleges and universities, and other community groups. Schools, students, and their families can contribute to the community through service-learning opportunities and by sharing school facilities with community members such as school-based community health centers or fitness facilities.

Family Engagement

Families and school staff work together to support and improve the learning, development, and health of students. Family engagement with schools is a shared responsibility of both school staff and families. School staff members are committed to making families feel welcomed, engaging families in a variety of meaningful ways, and sustaining family engagement. Families are committed to actively supporting their child's learning and development. This relationship between school staff and families cuts across and reinforces student health and learning in multiple settings—at home, in school, in out-of-school programs, and in the community. Family engagement should be continuous across a child's life and requires an ongoing commitment as children mature into young adulthood.

Physical Education and Physical Activity

Schools can create an environment that offers many opportunities for students to be physically active throughout the school day. A comprehensive school physical activity program (CSPAP) is the national framework for physical education and youth physical activity. A CSPAP reflects strong coordination across 5 components: physical education, physical activity during school, physical activity before and after school, staff involvement, and family and community engagement. Physical education serves as the foundation of a CSPAP and is an academic subject characterized by a planned, sequential K-12 curriculum (course of study) that is based on the national standards for physical education. Physical education provides cognitive content and instruction designed to develop motor skills, knowledge, and behaviors for healthy active living, physical fitness, sportsmanship, self-efficacy, and emotional intelligence. A well-designed physical education program provides the opportunity for students to learn key concepts and practice critical skills needed to establish and maintain physically active lifestyles throughout childhood, adolescence, and into adulthood. Teachers should be certified or licensed, and endorsed by the state to teach physical education.

DISCUSSION

A Holistic Health and Education Model

Inherent in the WSCC model is a holistic view of students, schools, and communities. The model builds on other socioecological models used in health and education, including Bronfenbrenner's ''Ecological Framework for Human Development,''[6] public health and health promotion models,[7] and Lohrmann's ''Ecological Model of the Coordinated School Health Program.''[8] Each segment and layer of the WSCC model is interdependent on the others; the model is designed to emphasize the *whole* to support the development of each child and youth most effectively. The focus of the WSCC model is a socioecological approach that is directed at the whole school, with the school, in turn, drawing its resources and influences from the whole community and serving to address the needs of the whole child. ASCD and the CDC encourage use of the model as a framework for improving students' learning and health.[3]

The model is based on health and education research, including research that addresses the need to engage students as active participants in their learning and health. The figure of the child represents children and youth who should be at the center of decisions made by policymakers and practitioners from the education and health sectors. In addition, the child is a reminder of the powerful outcomes that can be achieved by giving voice to children and youth about their education, their health and their communities. To be successful adults, students must be provided a variety of opportunities to learn, including in the community, and to put into practice their learning through peer leadership and educational choices, as well as their involvement in peer education and youth development.

After years of observing the CSH approach in action in local schools and districts, the consultation team noted that without coordination, policies, practices, and processes in place, the model would not be effective in achieving its intended outcomes. Administrator support, particularly the support of principals, has been shown to be a key factor in the success of the integration of learning and health in schools.[9] District and school policies that promote health and learning, practices that reinforce the policies and desired behaviors of staff and students, and processes that ensure that coordination, planning, use of data, and continuous improvement all must work in concert with the other pieces of the model.

How the WSCC Model Advances School Health

Improves the uptake of CSH principles. The original CSH components serve as the primary organizing framework through which school health educators, physical education teachers, school nurses, and other staff work to support students within the context of the school. Furthermore, this approach encourages schools and communities to come together to address the health needs of students to support their physical, cognitive, and emotional development. Overall, the CSH approach supports positive academic outcomes through its foci on health promotion and on reducing barriers to learning.

However, CSH has had scattered adoption across the United States. School health coordinating councils often have not had their work included into School

Improvement Plans, a key requirement for successful integration and sustainability of any effort undertaken within individual schools and school districts. Pressures on school administrators to improve student academic outcomes measured primarily through test scores have increased since the last reauthorization of the Elementary and Secondary Education Act in 2002. While educators have recognized the need for students to be healthy and safe in order to learn, declines in school budgets and punitive measures taken against schools that do not meet standards have also had a negative impact on administrators' adoption of CSH in schools and districts across the country.[10]

Directly addresses the relationship between education and health. To further the integration of health and education, the consultation team recognized the need to align the new model with the role that social determinants such as education play in the lifelong health of individuals and of populations. Public health recognizes that a range of personal, social, economic, and environmental factors contribute to individual and population health. The CDC and the World Health Organization have identified place-based settings that contribute to population and individual health. These 5 determinants include: (1) economic stability; (2) education; (3) social and community context; (4) health and health care; and (5) neighborhood and built environment.[11]

The WSCC approach incorporates all of the determinants and acknowledges their impact on the cognitive, physical, and emotional development of children and youth. The integration of health and education within the model provides educators with a holistic framework for integrating education and health. Schools are situated in social and community contexts. The model addresses social determinants of health, encourages the provision of health and health care, and emphasizes coordination and planning with the surrounding community and the local neighborhood through the lenses of the education and health sectors.

In line with the strong focus on social determinants of health, the WSCC further emphasizes the connectedness between health and academic outcomes. Proficient academic skills are associated with lower rates of risky behaviors and higher rates of healthy behaviors.[12-14] High school graduation leads to lower rates of health problems[15-18] and risk for incarceration, as well as enhanced financial stability during adulthood.[19,20] The school social environment affects students' attendance,[21] academic achievement, and behavior.[22] A safe and healthy school environment promotes student engagement[23] and protects against risky behaviors[24-26] and dropping out.[12] School administrators are required to focus on the long-term educational outcomes for students. Many also recognize the need to address immediate health-related factors to support educational outcomes. Studies demonstrate that when children's basic nutritional and fitness needs are met, they attain higher achievement levels.[14,27-38] Similarly, the use of school-based and school-linked health centers ensuring access to needed physical, mental, and oral health care improves attendance,[39] behavior,[40-45] and achievement.[46-49] The development of connected and supportive school environments benefits teaching and learning, engages students, and enhances positive learning outcomes. The development of a positive social and emotional climate increases academic achievement, reduces stress, and improves positive attitudes toward self and others.[50,51] Academic achievement is an excellent indicator for the overall well-being of youth and a primary predictor and determinant of adult health outcomes. Individuals with more education are likely to live longer; experience better health outcomes; and practice health-promoting behaviors such as exercising regularly, refraining from smoking, and obtaining timely healthcare checkups and screenings.[52-54] These positive outcomes are why many of the nation's leading educational organizations recognize the close relationship between health[55-57] and education, as well as the need to foster health and well-being within the educational environment for all students.[2,58-60] Conversely, education and public health recognize that a range of health-related factors can lead to poor school performance. Health-risk behaviors are linked to poor grades and lower educational attainment.[14]

Although the education and health sectors are both keenly interested in student achievement and health, the specific goals and accountability standards for achieving these outcomes can be different. The new WSCC model is designed to provide a shared framework and approach for decision making and action for both sectors to work together.

Through the development of the WSCC model, the goals of the education and health sectors are combined and integrated. As the next evolution of CSH, the model speaks to leaders and practitioners of both sectors on the local level. However, the model's use is not intended to be confined to a school, a district, or a community. The consultation and review groups also recognized that within the federal government a myriad of initiatives focus on school health issues. The WSCC model offers an overarching framework and a holistic approach to program coordination and integration within and across agencies.

IMPLICATIONS FOR SCHOOL HEALTH

The key to moving from model to action is collaborative development of local school policies, processes, and practices. The day-to-day practices within each

sector require examination and collaboration so that they work in tandem, with appropriate complementary processes guiding each decision and action. Developing joint and collaborative policy is half the challenge; putting it into action and making it routine completes the task. To develop joint or collaborative policies, processes, and practices, all parties involved should start with a common understanding about the interrelatedness of learning and health. From this understanding, current and future systems and actions can be adjusted, adapted, or crafted to jointly achieve both learning and health outcomes.[3]

School health coordinators and school health teams have been the facilitators of CSH in many schools and districts across the United States. That work has been most successful when the work has been viewed as integral to the mission of the school. When the district and school-based wellness teams work closely with the school administrator, both sectors' goals are combined and met most effectively.

As previously mentioned, schools are situated within the contexts of neighborhoods and communities. The relationship between the school and the community affects the entire community, not just the students attending the school. The WSCC model includes these contexts because research has shown their impact on education and health outcomes. When schools and their communities work together, their resources are used most effectively and the needs of the entire community can be identified and met more cost-effectively. The model recognizes that schools and communities have a shared responsibility for the health and education of children and youth. The model calls for this shared responsibility, acknowledging that schools are fiscally supported through the community and that they must work together to provide services and a positive quality of life.

While the WSCC model is designed for application in schools, it was developed to be relevant to a wide variety of individuals and groups who work with schools or whose work affects schools.

- School administrators and those who provide service within the component areas of the model (educators, school nurses, counselors, and those who provide support services in nutrition, physical environment, employee wellness, family engagement, and community involvement) will find direct, practical applications. The model's emphases on coordinating policy, process, and practice and integration of the community can enhance all aspects of the work of the school.
- School districts and schools can use the model as a framework for school improvement plans and initiatives. School improvement teams can be structured using representation from each of the components utilized in the model. Doing so can ensure integration of critical outcomes in education and health for students.
- Higher education programs that prepare school administrators, teachers, counselors, nurses, and other staff who work in school districts and schools may design coursework and professional development preservice and in-service events directed toward effective implementation of the model.
- Local, state, and national-level philanthropic organizations may develop initiatives that emphasize the community engagement aspects of the model and encourage its focus on coordinating policy, process, and practice in school districts and schools.
- Governmental agencies such as state education departments and state health departments can use the model as a framework for establishing accountability measures that address both education and health. They may also consider the model in design of specific programs designed to support local districts, including funding opportunity announcements.
- Federal agencies can utilize the framework as a foundation for official guidance, funding opportunity announcements, technical assistance initiatives, and professional development opportunities. Likewise, national governmental agencies in other countries may wish to consider the model in development of their own health-promoting schools initiatives.
- Policymakers and opinion leaders will find the approach helpful as a comprehensive view of necessary supports in schools and how they may be effectively organized. This view may be useful in development of policy initiatives that efficiently address learning and health.
- Finally, the public, including parents, can more effectively connect with school districts and schools as integral parts of the model. Building these collaborations will provide increased school connectedness and family connectedness, which are both critically important for student success. The efficiency of the model and interactivity of its components should provide efficiencies that can improve the work of schools.

The implementation of the model brings together all stakeholders to engage with the education and health issues present in the community, including collaborative identification of the college and career readiness skills required by businesses and higher education. Community agencies, educators, families, policymakers, children, and youth all play a role. Through the full implementation of all of the pieces included in the model, schools and communities have worked together. Schools are now sites for community health centers and fitness centers. Community agencies provide educational supports and student engagement

programs. The model is designed to initiate conversation and activate research- and evidence-based practices that support lifelong health, cognitive development and economic success.

It is important to be clear, however, that the model is a framework and not an intervention. It identifies the sectors, stakeholders, contexts, and elements that need to be considered when fully integrating health and education. Each element of the model has supporting research, evidence, and best practices that can be used for implementation. However, the specific interventions, curricula, classroom practices, and resources brought together to put the framework into action will be dependent on the local context.

Conclusion

The WSCC model represents an evolution of organizational thinking in schools. In the marriage of the two leading models addressing healthy schools, the Whole Child Initiative and the CSH approach, the WSCC approach provides a comprehensive framework for school districts and schools. The important changes within components and emphases on critical facilitative factors including community engagement, policies, processes, and practices build upon the assets of both approaches and effectively address the needs of modern schools.

By focusing on children and youth as students, addressing critical education and health outcomes, organizing collaborative actions and initiatives that support students, and strongly engaging community resources, the WSCC approach offers important opportunities for school improvements that will advance educational attainment and healthy development for students.

Human Subjects Approval Statement

This paper involved no human subjects, and therefore, was exempt from examination by an Institutional Review Board.

Disclaimer

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

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